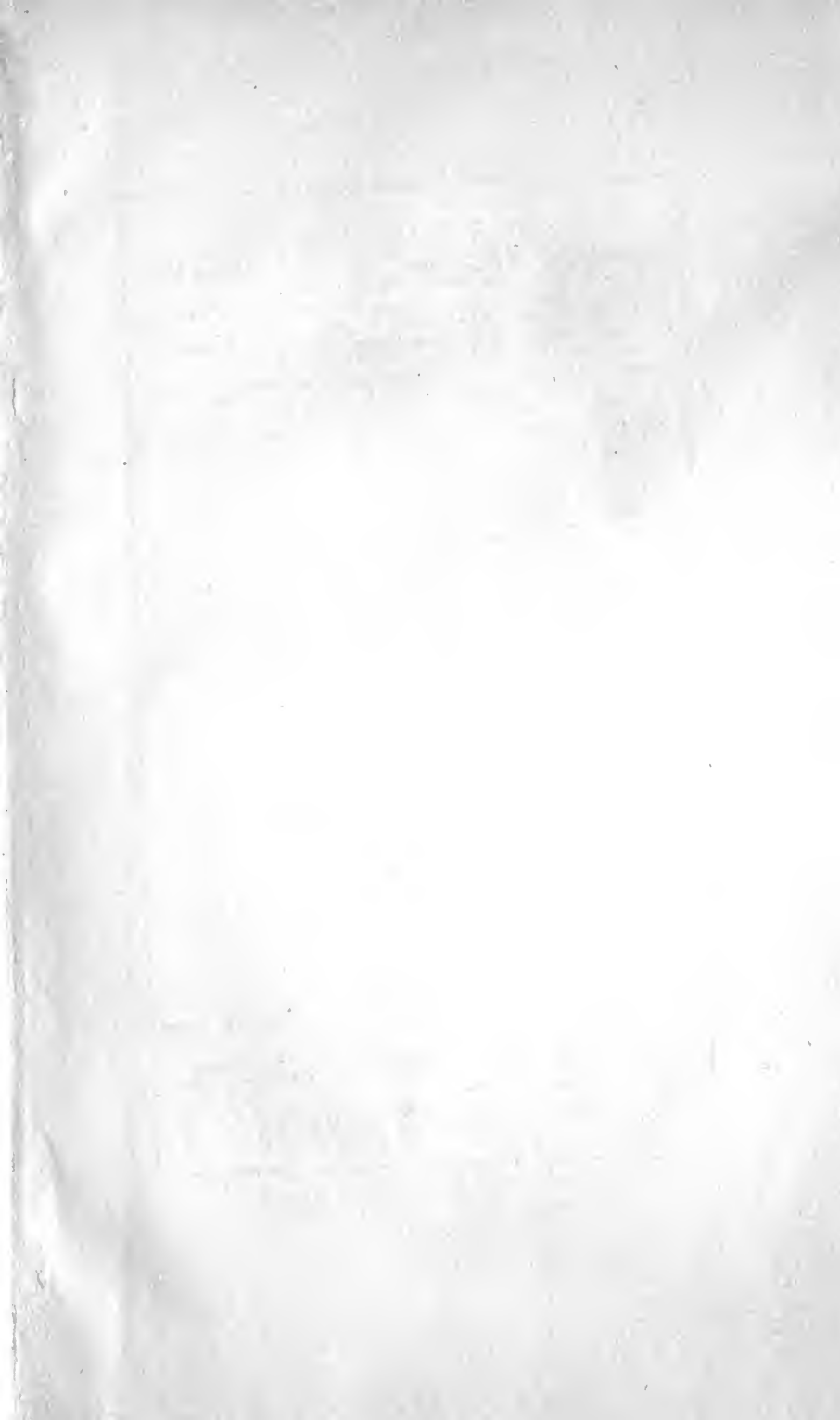




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COLLECTED ESSAYS AND REVIEWS

BY
WILLIAM JAMES



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PREFACE

THIS volume brings together for the convenience of students thirty-nine scattered articles and reviews by William James. None of these has heretofore appeared in book form, and many have been lost sight of and forgotten. The present volume when added to those already published will render easily accessible nearly all of the author's significant writings. The few exceptions will be noted presently.

In presenting this book to the public the editor is fully aware that he will meet with criticism from two opposite angles, on the one hand from those who disbelieve in posthumous publications altogether, and on the other hand from those who would reprint every work of the author's pen whose authenticity can be established.

The justification of publishing such a book at all lies in the interest and convenience of the wide circle of James's students and of the still wider circle of those who delight in reading him. The forthcoming *Annotated Bibliography of the Writings of William James* (1920) contains approximately three hundred titles, exclusive of translations and posthumous publications. Of these only nine are the titles of books, and of these nine books, only three (*Human Immortality*, *Varieties of Religious Experience*, and *Psychology: Briefer Course*) had not

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been in whole or part previously published in periodicals. For over forty years from 1868 up to within a few months of his death in 1910, James wrote essays, articles, reviews, and letters almost continuously. Nor were these hastily written and subsequently revised. It was the author's habit to write well and finally when he did write; and then when he had something more to say, to write again. In other words there is a finished quality, both of style and of thought, in most of his periodical writings. While many of these writings have already been collected, some by James himself, others since his death, these represent only a fraction of the whole. Among the periodical writings omitted from previous volumes are many which are of great value for the light which they throw upon James's own development and his relations with his contemporaries, as well as for their philosophical and psychological content. Scattered through various periodicals they can only with difficulty be consulted by the student, and are entirely inaccessible to the average reader. In addition to these the present volume contains a number of reviews which were originally published unsigned, and whose authorship has not heretofore been announced.

There are undoubtedly many devotees of James who will regret that James's scattered writings have not *all* been reprinted. As a matter of fact, many of the reviews contain little else than expository matter, many of the articles have been in substance restated elsewhere, and many of the letters

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and shorter writings are of such a nature as to be more suitable to a biography. Some of this last group are quoted or cited in the forthcoming *Letters of William James*. The editor is further reconciled to the omission of these three groups of writings by the fact that the *Annotated Bibliography* will serve to make them known and will enable a sufficiently eager reader to find them.

There is one group of articles that has presented a peculiar problem, which has not been solved without misgivings. The three articles, "Are We Automata?" *Mind*, 1879, "The Spacial Quale," *Journal of Speculative Philosophy*, 1879, and "On Some Omissions of Introspective Psychology," *Mind*, 1884, are all psychological classics. Each deals with one of James's most original and important contributions to the subject. None of these was reprinted as a whole in the *Principles of Psychology*, and they have great historical interest as they stand. Nevertheless there is no important difference between the content of these articles and that of those chapters of the *Principles* which deal with the same topics. Furthermore the preparation of the *Annotated Bibliography* has afforded the editor an opportunity of calling attention to them and of relating them to James's other writings. Hence, in view of their great length, it has been deemed best to omit them from the present volume. But at the same time several other articles of the same type have been included: "Spencer's Definition of Mind as Correspondence" because of its unique historical

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importance, as perhaps the key to all of James's later thought; "The Sentiment of Rationality" because of the light which it throws on James's philosophical sources; "The Feeling of Effort" because of its extreme inaccessibility in its present form; "What is an Emotion?" because, being written before the publication of Lange's work on the same subject, it throws important light on the question of priority respecting the famous "James-Lange theory."

It would in some respects have been more satisfactory if the papers contained in the present volume had been arranged in accordance with their subject-matter, or grouped under the headings "Philosophy," "Psychology," and "Psychical Research." But such a classification would have been entirely artificial and would have obscured the unity of the author's thought. Such papers as "Spencer's Definition of Mind as Correspondence" or "The Sentiment of Rationality" are equally philosophical and psychological; at any rate, to group them as the one or the other would have been to put a certain construction on them instead of letting them speak for themselves. The chronological arrangement which has been adopted is convenient and colorless, and has the additional advantage of indicating the sequence of the author's intellectual development.

In the preparation of this volume I have consulted many of James's friends, and while I am alone responsible for the ultimate selection, I have been guided so far as possible by the judgment of

PREFACE

those who were best qualified both by their interest in James and by their familiarity with the subject-matter of his writings. It gives me pleasure to acknowledge the help of Dr. E. B. Holt, Dr. R. M. Yerkes, Dr. F. C. S. Schiller, Judge T. M. Shackelford, Professor E. B. Titchener, Professor D. S. Miller, Dr. James R. Angell, Dr. H. M. Kallen, and Dr. Benjamin Rand. My colleagues, Professor H. S. Langfeld and Professor W. B. Cannon, have been especially generous of their time, and on certain technical matters beyond my competence their assistance has been invaluable. Finally, the undertaking would have been entirely impossible without the continuous encouragement and co-operation of Mr. Henry James.

The recent reading and re-reading of all of James's known writings have impressed two things very deeply on my mind. First, there was one and only one James from the beginning to the end. With all of his versatility and openmindedness he remained unconsciously loyal to certain fundamental convictions. It is even permissible to say that there is one germinal idea from which his whole thought grew, provided we do not overlook the even more important fact that his thought *did grow*. This germinal idea is the idea of the essentially active and interested character of the human mind. Second, I have been impressed as never before by James's extraordinary intellectual chivalry and hospitality, the reflection of his peculiar social genius. He was a man quick to reach to the heart

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of another man, quick to praise, quick to esteem the gifts of others, even when, as sometimes happened, no one else esteemed them at all. This gratitude which James felt so genuinely and manifested with so much kindness was not infrequently the foundation in others of their sustaining self-respect. Beginning with the older generation of his father and teachers, and ending with the younger generation of his children and students, his life was a continuous succession of marvellous human discoveries. As it was with his personal intercourse, so it was in his relations with those whom he knew more remotely or only through their writings. Most of these discoveries he has published to the world, in his prefaces and citations, or in those remarkable memorial addresses which have been reprinted in the *Memories and Studies* and which few men have known so well how to write.

When, as in this volume, we view James's thought throughout its entire length, we find him moving steadily abreast of his time and welcoming new ideas with eagerness and relish down to the day of his death. But despite this fact he was somehow never swept off his feet. He was never fickle or vacillating, nor did his thought ever lose its highly personal and characteristic flavor. There are few intellectual histories in which quick enthusiasm and love of novelty are so perfectly balanced by steadiness and discipline.

RALPH BARTON PERRY.

CAMBRIDGE, MASS.

May 24, 1920.

I

SARGENT'S "PLANCHETTE"¹

[1869]

.

A READER of scientific habits of thought would have been more interested by a very few cases described by the author over his own signature, and with every possible detail given, in which pedantically minute precautions had been taken against illusion of the senses or deceit. Of course it is quite natural that people who are comfortably in possession of a season-ticket over the Stygian ferry, and daily enjoying the privileges it confers of correspondence with the "summer-land," should grow out of all sympathy with the critical vigilance and suspicion about details which characterize the intellectual condition of the "Sadducees," as our author loves to call the earth-bound portion of the community. From his snug home in an atmosphere in which pianos float, "soft warm hands" bud forth from vacant space, and lead pencils write alone, the spiritualist has a right to feel a personal disdain

¹ Selected paragraphs comprising about one-half of an unsigned review of E. Sargent's *Planchette: or the Despair of Science*; which review was originally printed in *Boston Daily Advertiser*, March 10, 1869. The book offered a history and defense of modern spiritualism. In connection with the date of the review it is to be noted that the Society for Psychical Research was not founded until 1882.

for the "scientific man" who stands inertly aloof in his pretentious enlightenment. Scientific men seem to demand that spiritualists should *come* and demonstrate to them the truth of their doctrine, by something little short of a surgical operation upon their intellects. But the spiritualist, from his point of view, is quite justified in leaving them forever on their "laws of nature," unconverted, since he in no way needs their countenance.

But an author writing avowedly for purposes of propagandism should have recognized more fully the attitude of this class, and recollected that one narrative personally vouched for and *minutely* controlled, would be more apt to fix their attention, than a hundred of the striking but comparatively vaguely reported second-hand descriptions which fill many of the pages of this book. The present attitude of society on this whole question is as extraordinary and anomalous as it is discreditable to the pretensions of an age which prides itself on enlightenment and the diffusion of knowledge. We see tens of thousands of respectable people on the one hand admitting as facts of every day certainty, what tens of thousands of others equally respectable claim to be abject and contemptible delusion; while other tens of thousands are content to stand passively in the dark between these two hosts and in doubt, the matter meanwhile being—rightfully considered—one of really transcendent interest. In this state of things recrimination is merely lost time. Those people who have the interests of truth

at heart should remember that personal dignity is of very little comparative consequence. If our author, in concert with some good mediums, had instituted some experiments in which everything should be protected from the possibility of deceit, remembering that the morality of no one in such a case is to be taken for granted, and that such personal precautions cannot be offensively construed, he would probably have made a better contribution to clearing up the subject than he has now done.

.

II

LEWES'S "PROBLEMS OF LIFE AND MIND" ¹

[1875]

MORE problems! Why should we read them if they are not our problems, but only Mr. Lewes's? Of all forms of earthly worry, the metaphysical worry seems the most gratuitous. If it lands us in permanently skeptical conclusions, it is worse than superfluous; and if (as is almost always the case with non-skeptical systems) it simply ends by "indorsing" common-sense, and reinstating us in the possession of our old feelings, motives, and duties, we may fairly ask if it was worth while to go so far round in order simply to return to our starting-point and be put back into the old harness. Is not the primal state of philosophic innocence, since the practical difference is *nil*, as good as the state of reflective enlightenment? And need we, provided we can stay at home and take the world for granted, undergo the fatigues of a campaign with such uncomfortable spirits as the present author, merely for the sake of coming to our own again, with nothing gained but the pride of having accompanied his

[¹ Review of *Problems of Life and Mind*, by George Henry Lewes, first series, 1875. Reprinted from *Atlantic Monthly*, 1875, 36, 361-363. Ed.]

expedition? So we may ask. But is the pride nothing? Consciousness is the only measure of utility, and even if no philosophy could ever alter a man's motives in life,—which is untrue,—that it should add to their conscious completeness is enough to make thousands take upon themselves its burden of perplexities. We like the sense of companionship with better and more eager intelligences than our own, and that increment of self-respect which we all experience in passing from an instinctive to a reflective state, and adopting a belief which hitherto we simply underwent.

Mr. Lewes has drunk deep of the waters of skepticism that have of late years been poured out so freely in England, but he has worked his way through them into a constructive activity; and his work is only one of many harbingers of a reflux in the philosophic tide. All philosophic reflection is essentially skeptical at the start. To common-sense, and in fact to all living thought, matters actually thought of are held to *be* absolutely and objectively as we think them. Every representation *per se*, and while it persists, is of something absolutely so. It becomes relative, flickering, insecure, only when reduced, only in the light of *further* consideration which we may bring forward to confront it with. This may be called its *reductive*. Now the reductive of most of our confident beliefs about Being is the reflection that they are *our* beliefs; that we are turbid media; and that a form of being may exist uncontaminated by the touch of the fal-

lacious knowing subject. In the light of this conception, the Being we know droops its head; but until this conception has been formed it knows no fear. The motive of most philosophies has been to find a position from which one could *exorcise the reductive*, and remain securely in possession of a secure belief. Ontologies do this by their conception of "necessary" truth, *i. e.*, a truth with no alternative; with a *præterea nihil*, and not a *plus ultra possibile*; a truth, in other words, whose only reductive would be the impossible, nonentity, or zero.

In such conclusions as these philosophy re-joins hands with common-sense. For above all things common-sense craves for a stable conception of things. We desire to know what to *expect*. Once having settled down into an attitude towards life both as to its details and as a whole, an incalculable disturbance which might arise, disconcert all our judgments, and render our efforts vain, would be in the last degree undesirable. Now as a matter of fact we do live in a world from which as a rule we know what to expect. Whatever items we found together in the past are likely to coexist in the future. Our confidence in this state of things deprives us of all sense of insecurity; if we lay our plans rightly the world will fulfill its part of the contract. Common-sense, or popular philosophy, explains this by what is called the judgment of Substance, that is, by the postulation of a persistent Nature, immutable by time, behind each phenomenal group, which

binds that group together and makes it what it is essentially and eternally. Even in regard to that mass of accidents which must be expected to occur in some shape but cannot be accurately prophesied in detail, we set our minds at rest, by saying that the world with all its events has a substantial cause; and when we call this cause God, Love, or Perfection, we feel secure that whatever the future may harbor, it cannot at bottom be inconsistent with the character of this term. So our attitude towards even the unexpected is in a general sense defined.

Now this substantial judgment has been adopted by most dogmatic philosophies. They have explained the collocations of phenomena by an immutable underlying nature or natures, beside or beyond which they have posited either the sphere of the Impossible, if they professed rationalism throughout, or merely a *de facto* Nonentity if they admitted the element of Faith as legitimate. But the skeptical philosophers who have of late predominated in England have denied that the substantial judgment is legitimate at all, and in so doing have seemed among other things to deny the legitimacy of the confidence and repose which it engenders. The habitual concurrence of the same phenomena is not a case of dynamic connection at all, they say. It may happen again—but we have no rational warrant for asserting that it must. The syntheses of data we think necessary are only so to us, from habit. The universe may turn inside

out to-morrow, for aught we know; our knowledge grasps neither the essential nor the immutable. Instead of a nonentity beyond, there is a darkness, peopled it may be with every nightmare shape. Their total divergence from popular philosophy has many other aspects, but this last thought is their reductive of its tendency to theosophize and of its dogmatic confidence in general.

The originality of Mr. Lewes is that while vigorously hissing the "Substances" of common-sense and metaphysics off the stage, he also scouts the reductive which the school of Mill has used, and maintains the absoluteness and essentiality of our knowledge. The world according to him as according to them is truly enough only the world *as known*, but *for us* there is no other world. For grant a moment the existence of such a one: we could never be affected by it; as soon as we were affected, however, we should be knowers of it, in the only sense in which there is any knowledge at all, the sense of subjective determination,—and it would have become our world. Now, as such it is a universe and not a heap of sand, or, as has been said, a *nulliverse* like Mill's. Its truths are *æternæ veritates*, essential, exhaustive, immutable. We can settle down upon them and they will keep their promise. The sum of all the properties is the substance; the predicates *are* the subject; each property *is* the other viewed in a "different aspect." The same collocations must therefore occur in the future. So far from the notion of cause being illusory, the cause

is the effect "in another relation," and the effect the procession of the cause. The identification by continuity of what the senses discriminate, and so, according to the reigning empiricism, disunite, is carried so far by Mr. Lewes that in his final chapter he affirms the psychic event which accompanies a tremor in the brain to *be* that tremor "in a different aspect."

His arguments we have not space to expose. One thing is obvious, however: that his results will meet with even greater disfavor from the empirics than from the ontologists in philosophy, and that the pupils of Mill and Bain in particular will find this bold identification of the sensibly diverse too mystical to pass muster. It is in fact the revival of the old Greek puzzle of the One and the Many—how each becomes the other—which they, if we apprehend them aright, have escaped by the simple expedient of suppressing the One. They will join hands too with the ontologists in conjuring up beyond the universe recognized by Mr. Lewes the spectre of an hypothetical possible Something, not a Zero—only the ontologists will not join them again in letting this fill the blank form of a logical reductive pure and simple, but will dub it the universe *in se*, or the universe as related to God, if Mr. Lewes still insists on their defining everything as in relation. That Mr. Lewes should say candidly of this thought that *he* is willing to ignore it, cannot restrain them. We may conclude, therefore, that ever-sprouting reflection, or skepticism, just as it

preys on all other systems, may also in strict theoretic legitimacy prey upon the ultimate data of Mr. Lewes's Positivism taken as a whole; even though all men should end by admitting that within the bounds of that empirical whole, his views of the necessary continuity between the parts were true. To this reduction by a *plus ultra*, Mr. Lewes can only retort by saying, "Foolishness! So much ontologic thirst is a morbid appetite." But in doing this he simply falls back on the *act of faith* of all positivisms. Weary of the infinitely receding chase after a theoretically warranted Absolute, they return to their starting-point and break off there, like practical men, saying, "Physics, we espouse thee; for better or worse be thou our Absolute!"

Skepticism, or unrest, in short, can always have the last word. After every definition of an object, reflection may arise, infect it with the *cogito*, and so discriminate it from the object *in se*. This is possible *ad infinitum*. That we do not all do it is because at a certain point most of us get tired of the play, resolve to stop, and assuming something for true, pass on to a life of action based on that.

We wish that Mr. Lewes had emphasized this volitional moment in his Positivism. Although the consistent pyrrhonist is the only theoretically unassailable man, it does not follow that he is the right man. Between us and the universe, there are no "rules of the game." The important thing is that our judgments should be right, not that they should observe a logical etiquette. There is a brute, blind

element in every thought which still has the vital heat within it and has not yet been reflected on. Our present thought always has it, we cannot escape it, and we for our part think philosophers had best acknowledge it, and avowedly *posit* their universe, staking their persons, so to speak, on the truth of their position. In practical life we despise a man who will risk nothing, even more than one who will heed nothing. May it not be that in the theoretic life the man whose scruples about flawless accuracy of demonstration keep him forever shivering on the brink of Belief is as great an imbecile as the man at the opposite pole, who simply consults his prophetic soul for the answer to everything? What is this but saying that our opinions about the nature of things belong to our moral life?

Mr. Lewes's personal fame will now stand or fall by the *credo* he has published. We do not think the fame should suffer, even though we reserve our assent to important parts of the creed. The book is full of vigor of thought and felicity of style, in spite of its diffuseness and repetition. It will refute many of the objections made by critics to the first volume; and will, we doubt not, be a most important ferment in the philosophic thought of the immediate future.

III

GERMAN PESSIMISM ¹

[1875]

THE German intellect is a far more complex affair than the English intellect, and *a fortiori* than the French or Italian. From sensualism to mysticism, from fatalistic quietism to the most ruthless practicality, there is hardly a mental quality or tendency which one will not find better represented in Germany than elsewhere; save only one, and that is the quality of *naïveté* or spontaneity. Every subject of King William is, *ex-officio*, reflective and self-conscious, unable to surrender himself to any sentiment, however simple, till he has reflected on it and woven it into a systematic theory, or in other words transmuted it from an impulse into a principle. Whatever the German feels or does, he does with malice prepense; he *justifies* himself, by showing that the act or thought must rightfully flow from one in his position. Whether the position be that of a citizen properly filled with *Nationalbewusstsein*, of a competitor in the egoistic struggle for existence, of a subject of the Categorical Imperative, or of a *Moment* in the *Weltprozess*, is all

[¹ A review of *Der Modern Pessimismus*, by Dr. Edmund Pfeiderer. Berlin, 1875. Reprinted from *Nation*, 1875, 21, 233-234. Ed.]

one—we find everywhere that same cold-blooded self-corroboration and merging of the personal deed in universal considerations which, more than material spoliation and Draconian discipline, exasperated the French during the late invasion, and have made them call the Germans “hypocrites” ever since.

Perhaps as striking an illustration of this overweening tendency to theorize as can be found is afforded by the popular German school of pessimistic philosophy, of which Professor Pfleiderer’s pamphlet is the latest and one of the ablest criticisms. In other countries, aristocratic misanthropes, dyspeptic pleasure-seekers, and unappreciated geniuses have existed, and their utterances never passed beyond the sphere of splenetic or pathetic individuality. Souls with an unassuageable love of justice and harmony have also existed, and their utterances, like Leopardi’s and Shelley’s, have been lyrical cries of defiance or despair, which perished with them. It was reserved for Schopenhauer to show his countrymen that the cursing and melting moods could be kept alive permanently, and extended indefinitely by making proper theoretic deliberation; and Schopenhauer’s disciple Hartmann, whose work, the *Philosophie des Unbewussten*, has met with one of the greatest literary successes of the time, and carried the new gospel into regions where the torch of metaphysics had never yet begun to glimmer, has made everything so simple and perfect in his system, that all who have

a quarrel with destiny, whether peevish or tragic, can be housed there side by side, without altering their mode of life or losing any of their "home comforts" in the process of cure. For it would be unpardonable in these philosophers to preach disgust with life unless the disgust were likely to lead the way to a cure. Existence being of course the original sin of that substance or essence of things which Schopenhauer calls "Will," and to which Von Hartmann gives the name of "the Unconscious," annihilation or *nirvana* is of course the cure. And in both philosophies this may be attained through the thorough and final intellectual persuasion of the vanity of all the goods of life and the consequent extinction of every desire.

But here begins the divergence. The aristocratic master has no hopes of the human or any other race as a whole, and his *nirvana* is restricted to the few who are ascetics and saints. In the witty words of Pfeiderer, the battle-cry with which he plunges into life's fray and rallies his followers about him is the well-known "*sauve qui peut*." The pupil, on the contrary, equipped with a Berlin education and imbued with notions of evolution and progress which to Schopenhauer (who wrote before Darwin) were profoundly distasteful, provides for a collective salvation, based on no less a performance than a unanimous resolve on the part of all sentient beings, penetrated at last through and through with *tedium vitæ*, and despair of gaining anything by fighting it out on the line of existence—

to stop, and back out of it, when *this* world will cease at any rate. Whether there will ever be another world depends wholly on whether the wicked old "Unconscious" chooses again to emerge from its state of mere potentiality; and as it is being without rhyme or reason, a mere *brutum*, the chances for and against that unlucky eventuality are just even, or expressed in mathematical language by the fraction one-half. Schopenhauer's philosophy, says Hartmann, is one of despair. So far is this from being the worst of all possible worlds, that it is the best, for it tends invincibly to the *summum bonum* of extinction. Let no man then desert the ranks, but each labor in the Lord's vineyard, sneering, lamenting, and cursing as he pleases, getting indigestion himself, and begetting young, to inoculate them with a disgust greater than his own, and co-operating so with the grand movement of things which is bound to culminate in deliverance. Above all, let us have no standing aloof and trying prematurely to save one's individual self, like Schopenhauer's ascetics. This delightfully unselfish submission to epicurean practice in the midst of pessimistic theory is Hartmann's cleverest stroke. As in Béranger's song:

"Nous laisserions finir le monde
Si nos femmes le voulaient bien!"

Schopenhauer was truly a bungler. But, joking apart, the reader can easily see how little living seriousness Hartmann possesses. He seems to us

to have a clever journalistic mind, with a Prussian education, ready for any paradox which will make a sensation, and without a grain of that *auctoritas* which belongs to the sombre and impressive genius of his teacher.

The latter is assuredly one of the greatest of writers. When such a one expatiates upon the texts of *Homo homini lupus* and Woman the focus of the world's illusion, he will have all the cynics with a taste for good literature for his admirers. And when he preaches compassion to be the one cardinal virtue, and morbidly reiterates the mystic Sanskrit motto, *Tat twan asi*—This [maniac or cripple] art thou—as the truth of truths, he will of course exert a spell over persons in the unwholesome sentimental moulting-time of youth. But the thing which to our Anglo-Saxon mind seems so outlandish is that crowds of dapper fellows, revelling in animal spirits and conscious strength, should enroll themselves in cold blood as his permanent apostles, and feel as sorely when their pessimism is attacked as the fabled old dead inmate of the almshouse did when, not good enough for heaven, she was also shut out from hell, and sat on the road and wept that she should have to return to Tewkesbury.

For, however it may stand with Tewkesbury, in the world at large, practically considered, optimism is just as true as pessimism. These Germans can attain their absolute luxury of woe only by speaking of things transcendently and metaphysically. As far as the outward animal life goes, the existence

of a Walt Whitman confounds Schopenhauer quite as thoroughly as the existence of a Leopardi refutes Dr. Pangloss; and Hartmann's elaborate indictment of the details of life is precisely on a par in point of logic with the "wisdom and beneficence" philosophy of the most edifying and gelatinous Sunday-school orator. Common-sense contents itself with the unreconciled contradiction, laughs when it can, and weeps when it must, and makes, in short, a practical compromise, without trying a theoretical solution. This attitude is of course respectable. But if one must needs have an ultimate theoretical solution, nothing is more certain than this, that no one need assent to that of pessimism unless he freely prefer to do so. Concerning the metaphysical world, or the ultimate meaning of things, there is no outward evidence—nothing but conceptions of the possible. Distinct among these is that of a moral order whose life *may* be fed by the contradictions of good and evil that occur in the external phenomenal order. Those empiricists who are celebrating nowadays with such delight the novel mathematical notion of a fourth or "transcendental" dimension in space, should be the last persons to dogmatize against the possibility of a deeper dimension in *being* than the flat surface-pattern which is offered by its pleasures and pains, taken merely as such. Now, if such an order in the world is possibly true, and if, supposing it to be true, it may afford the basis for an ultimate optimism (quite distinct from mere nerveless senti-

mentalism), there is no reason which should deter a person bent on having some commanding theory of life from adopting it as his hypothesis or working faith. He may of course prefer pessimism, but only at the price of a certain internal inconsistency. (We purposely neglect to consider dogmatic materialism here.) For pessimism is really only consistent with a strictly dogmatic attitude. It is fatalistic in the thorough Oriental sense, being by its very definition a theory from which one is bound to escape, *if he can*. Its account of things is confessedly abhorrent, and nothing but coercive outward evidence should make one stay within its pale. Now, a hypothetical door like that offered by the notion of a ransoming moral order "behind the veil" is better than no loophole of escape; and to refuse to give one's self the benefit of its presence argues either a perfectly morbid appetite for dogmatic forms of thought, or an astounding lack of genuine sense for the tragic, which sense undoubtedly varies, like every other, from man to man.

With transcendental optimism, on the other hand, it is just the reverse. If it is *true*, why, then, there is the deepest internal congruity in its *not* being mechanically forced on our belief. As a fatalistic *nolens-volens* creed, it would be devoid of all moral character. Or rather, we may not talk of its *being* true, but *becoming* true. Its full verification must be contingent on our complicity, both theoretical and practical. All that it asserts is that the facts of the world are a fit basis for the

summum bonum, if we do our share and react upon them as it is meant we should (with fortitude, for example, and undismayed hope). The world is thus absolutely good only in a potential or hypothetical sense, and the hypothetical form of the optimistic belief is the very signature of its consistency, and first condition of its probability. At the final integration of things, the world's goodness will be an accomplished fact and self-evident, but, till then, faith is the only legitimate attitude of mind it can claim from us.

So plain is all this that the pessimistic controversy has far more of an ethnic than a philosophic interest for us. We are only sorry that, at this distance, the data are too few for us to see what its full ethnic import is. If it simply result in confirming in Germany the tonic creed that there comes a time when every good, however precious, is fit for nothing but destruction, for the sake of a higher good, and that passive felicity is a dream, it can do no harm. Dr. Pfeleiderer's pamphlet, which takes substantially the same ground as we do, is both temperate and witty, and may be cordially recommended to those interested in the subject.

IV

CHAUNCEY WRIGHT¹

[1875]

THE death which we briefly noticed last week reminds us most sadly of the law, that to be an effective great man one needs to have *many* qualities great. If power of analytic intellect pure and simple could suffice, the name of Chauncey Wright would assuredly be as famous as it is now obscure, for he was not merely the great mind of a village—if Cambridge will pardon the expression—but either in London or Berlin he would, with equal ease, have taken the place of master which he held with us. The reason why he is now gone without leaving any work which his friends can consider as a fair expression of his genius, is that his shyness, his want of ambition, and to a certain degree his indolence, were almost as exceptional as his power of thought. Had he, in early life, resolved to con-

[¹ Reprinted from *Nation*, 1875, 21, 194. James acknowledged his indebtedness to Wright's "intellectual companionship in old times," in the Preface to the *Principles of Psychology*, I, p. vii. He borrowed the expression cosmical "weather," in *Will to Believe*, p. 52. There are important points of resemblance between Wright and C. S. Peirce, to whom James gives the credit for pragmatism. Wright's death occurred on September 12, 1875, in his forty-fifth year. His *Philosophical Discussions* have been collected and edited with a biography by C. E. Norton, New York, 1877. Ed.]

centrate these and make himself a physicist, for example, there is no question but that his would have ranked to-day among the few first living names. As it was, he preferred general criticism and contemplation, and became something resembling more a philosopher of the antique or Socratic type than a modern *Gelehrter*. His best work has been done in conversation; and in the acts and writings of the many friends he influenced his spirit will, in one way or another, as the years roll on, be more operative than it ever was in direct production. Born at Northampton in 1830, graduating at Harvard in 1852, he left us in the plenitude of his powers. His outward work is limited to various articles in the *North American Review* (one of which Mr. Darwin thought important enough to reprint as a pamphlet in England), a paper or two in the Transactions of the Academy of Arts and Sciences, and a number of critical notices in our own pages—the latest of these being the article entitled “German Darwinism,” which we¹ published only two weeks ago. As a writer, he was defective in the shaping faculty—he failed to emphasize the articulations of his argument, to throw a high light, so to speak, on the important points; so that many a casual peruser has probably read on and never noticed the world of searching consequences which lurked involved in some inconspicuously placed word. He spent many years in computing for the *Nautical Almanac* and from time to time

¹ *The Nation*.

accepted some pedagogic work. He gave a course of University lectures on psychology in Harvard College in 1871, and last year he conducted there a course in mathematical physics. As little of a reader as an educated man well can be, he yet astonished every one by his omniscience, for no specialist could talk with Chauncey Wright without receiving some sort of instruction in his specialty. This was due to his irrepressible spontaneous habit of subtle thinking. Every new fact he learned set his whole mental organism in motion, and reflection did not cease till the novel thought was firmly woven with the entire system of his knowledge. Of course in this process new conclusions were constantly evolved, and many a man of science who hoped to surprise him with news of a discovery has been himself surprised by finding it already *constructed* by Wright from data separately acquired in this or that conversation with one or other of the many scholars of Cambridge or Boston, most of whom he personally knew so well.

In philosophy, he was a worker on the path opened by Hume, and a treatise on psychology written by him (could he have been spared and induced to undertake the drudgery) would probably have been the last and most accomplished utterance of what he liked to call the British school. He would have brought the work of Mill and Bain for the present to a conclusion. Of the two motives to which philosophic systems owe their being, the craving for consistency or unity in thought, and the de-

sire for a solid outward warrant for our emotional ends, his mind was dominated only by the former. Never in a human head was contemplation more separated from desire. Schopenhauer, who defined genius as a cognitive faculty manumitted from the service of the will, would have found in him an even stronger example of his definition than he cared to meet. For to Wright's mode of looking at the universe such ideas as pessimism or optimism were alike simply irrelevant. Whereas most men's interest in a thought is proportioned to its possible relation to human destiny, with him it was almost the reverse. When the mere actuality of phenomena will suffice to describe them, he held it pure excess and superstition to speak of a metaphysical whence or whither, of a substance, a meaning, or an end. Just as in cosmogony he preferred Mayer's theory to the nebular hypothesis, and in one of his earliest *North American Review* articles used the happy phrase, "cosmical weather," to describe the irregular dissipation and aggregation of worlds; so, in contemplating the totality of being, he preferred to think of phenomena as the result of a sort of ontologic weather, without inward rationality, an aimless drifting to and fro, from the midst of which relatively stable and so (for us) rational combinations may emerge. The order we observe in things needs *explanation* only on the supposition of a preliminary or potential disorder; and this he pointed out is, as things actually *are* orderly, a gratuitous notion. Anaxagoras, who introduced into philos-

ophy the notion of the $\nu\omicron\varsigma$, also introduced with it that of an antecedent chaos. But if there be no essential chaos, Mr. Wright used to say, an anti-chaotic $\nu\omicron\varsigma$ is superfluous. He particularly condemned the idea of substance as a metaphysical idol. When it was objected to him that there must be some principle of oneness in the diversity of phenomena—some *glue* to hold them together and make a universe out of their mutual independence, he would reply that there is no need of a glue to join things unless we apprehend some reason why they should fall asunder. Phenomena *are* grouped—more we cannot say of them. This notion that the actuality of a thing is the absolute totality of its being was perhaps never grasped by any one with such thoroughness as by him.

However different a philosophy one may hold from his, however one may deem that the lack of emotional bias which left him contented with the mere principle of parsimony as a criterion of universal truth was really due to a defect in the active or impulsive part of his mental nature, one must value none the less his formulæ. For as yet philosophy has celebrated hardly any stable achievements. The labors of philosophers have, however, been confined to deepening enormously the philosophic *consciousness*, and revealing more and more minutely and fully the import of metaphysical problems. In this preliminary task ontologists and phenomenologists, mechanists and teleologists, must join friendly hands, for each has been indispensable

to the work of the other, and the only foe of either is the common foe of both—namely, the practical, conventionally thinking man, to whom, as has been said, nothing has true seriousness but personal interests, and whose dry earnestness in those is only excelled by that of the brute, which takes everything for granted and never laughs.

Mr. Wright belonged to the precious band of genuine philosophers, and among them few can have been as completely disinterested as he. Add to this eminence his tireless amiability, his beautiful modesty, his affectionate nature and freedom from egotism, his childlike simplicity in worldly affairs, and we have the picture of a character of which his friends feel more than ever now the elevation and the rarity.

V

BAIN AND RENOUVIER ¹

[1876]

PHILOSOPHY and psychology are such difficult studies that most of us may be said to read *in* the works of philosophers rather than to read them. We like, as it were, physically to rub our minds against the abstract problems in their pages; we enjoy the glimpses we get of their solution; but we *grasp* nothing but the concrete illustrations by the way and the explanations of details the author may give us. Accordingly, the more fertile a philosopher is in these, the more popular he will become. The two philosophers of indubitably the widest influ-

[¹ Review of *The Emotions and the Will*, by Alexander Bain, third edition, New York, 1876; and *Essais de Critique générale*, by Charles Renouvier, second edition, Paris, 1875. Reprinted from *Nation*, 1876, 22, 367-369. Bain was born in 1818 and died in 1903. James and Renouvier were for many years connected by bonds of friendship and mutual admiration. On James's part this admiration continued up to the time of his death. The posthumous *Some Problems of Philosophy* was dedicated to Renouvier in accordance with the author's express wish, James having left on record the following statement of his indebtedness: "He [Renouvier] was one of the greatest of philosophical characters, and but for the decisive impression made on me in the seventies by his masterly advocacy of pluralism, I might never have got free from the monistic superstition under which I had grown up" (*Some Problems of Philosophy*, p. 165, note). Cf. also *ibid.*, p. 163; *Will to Believe*, p. 143; and below, p. 98. Renouvier was born in 1815, and died in full intellectual vigor in 1903. Ed.]

ence in England and America since Mill's death are Messrs. Bain and Spencer, who have little in common except the tendency to explain things by physical reasons as much as possible, and this abundance of illustrative fact; whilst Mr. Hodgson, a writer in our opinion vastly more thorough and original than either, is unread and unknown because in his books the concatenation of the thoughts is everything, and the illustrative instances subordinate. The thoroughness of the descriptive part of Bain's treatises, and the truly admirable sagacity of many of the psychological analyses and reductions they contain, has made them deservedly classical. It seems hardly worth while to devote our space to giving an account of the third edition of one of them, for every one interested in psychology must read the originals themselves. We propose, therefore, merely to use Mr. Bain for the purpose of giving greater relief to the merits of a French philosopher, Renouvier, who seems as yet unknown to English readers, but who has given to the philosophy which Bain represents a form in our opinion far more clear, perfect, and consistent than has been attained by any English writer.

For Bain is not only a psychologist proper, does not merely describe mental facts as items in the inventory of nature, but also speculates about nature as a whole. The fault we find in him in this capacity is his fragmentariness and consequent inconsistency. Fragmentariness—the willingness to settle only so much of a subject at a time as is

practically needful—has become such a tradition in the history of the British mind, that philosophers who, like Spencer, are thoroughly systematic and constructive in their form, are viewed with suspicion and dislike on that very account by many minds of Anglo-Saxon type. This is surely a vicious extreme, for the very impulse to which philosophies owe their being is the craving for a consistent completeness; and every powerful attempt to rear a thorough system of thought has an intellectual *style* about it which is, æsthetically considered, to say the least, far nobler than the slouchy dumping of materials to which Mr. Bain treats us.

The most important of these fragmentary British contributions to philosophy are the criticisms and negations called nominalism and nihilism. Together they form the positivism, empiricism, or phenomenalism which within a certain sphere are so congenial to the Anglo-Saxon mind. They assert that nothing has reality except actual particular facts. Such noumenal substances as matter, nature, power, are admitted alike by metaphysics and by popular philosophy or common sense; but criticism scrutinizes them only to proclaim that they are absolutely void of meaning except as names descriptive of particular phenomena. Describe *these* completely, and you have named all there is. If the particulars will happen just so each time, the assumption of a “substance” to produce them is mere image-worship—a fifth wheel to a coach. Accord-

ingly, the school of Mill and Bain regard the world as a mere sum of separate phenomena or representations which habitually group themselves into certain orders, with which we grow more or less familiar, and which consequently seem more or less rational and necessary. To account for the particular habits of grouping, or "laws" of nature and of mind, is on this theory the next problem. The English school has always tried more or less to evade this part of the subject, and, reducing the principles of grouping to as small a number as possible (*e.g.*, space and causality to time), it has treated what remained in a hazy sort of manner, as not worthy of much attention anyhow. M. Renouvier's polemic against the metaphysical notions of Substance, of Infinite in existence, and of abstract ideas seems to us more powerful than anything which has been written in English; but he differs from his English allies in giving as great an emphasis to the laws of grouping as to the phenomena grouped. The laws are for him equally with the phenomena absolute and distinct. In fact, a "phenomenon" apart from its group, law, or function is an inconceivable nonentity.

But his great point of divergence from Bain and Mill lies in his treatment of the problem of Freedom, and here, it seems to us, is shown the advantage of a systematically-thought philosophy over one fragmentarily fed from heterogeneous sources. We have no space to discuss the sources of the English prejudice in favor of psychical determinism.

Every reader of Mill's *Autobiography* will remember the striking passage in which he narrates the hypochondria which this doctrine produced in his youthful mind. It is the strongest proof of the essentially pious character of that mind that this inherited belief was clung to in spite of its not being logically called for by the rest of Mill's philosophic creed. For if any man may believe in free-will it is surely one who repudiates the notion of an infinite pre-existing substance from which "the remediless flux of existence" proceeds, and who denies that there is any real coerciveness in the relation of cause to effect. Both these denials were Mill's. M. Renouvier most justly insists that the only logical enemy of free-will is the doctrine of Substance or Pantheism. Spencer, for example, with his "Unknowable," is bound in honor to oppose it; but the opposition of Bain, who seems to hold to the ultimate distinctness of each phenomenon, and with the ultimate inexplicability of their order of succession, can only be regarded as a caprice.

Renouvier at a stroke clears the question of a cloud of quibbles by stating it in simple phenomenal terms. For him it is merely a question as to the ambiguity of certain futures, those human acts, namely, which are preceded by *deliberation*. What are the phenomena here? A representation arises in a mind, but ere it can discharge itself into a train of action, it is inhibited by another which confronts it. This, on the point of discharging itself, is again checked by the first, which returns with a reinforced

intensity, and so for a time the pendulum swings to and fro, till finally one or the other representation recurs with such a degree of reinforcement that the tumult ceases, and an act, a decision for the future, or the arrest of a passionate impulse takes place. This stable survival of one representation is called a volition. The whole question of its predetermination relates to the intensity of the degree of reinforcement with which the triumphant representation recurs. As a matter of fact, in critical cases (which are the only cases bearing on the question) this intensity is utterly unknown beforehand. Is it potentially and essentially a knowable quantity? If *not*, our acts are in certain cases original commencements of series of phenomena, whose realization excludes other series which were previously possible. If *so*, they form part of an adamantine and eternal uniformity. But who shall decide? The argumentation of Bain that as a matter of fact men always do expect each other to act with predictable uniformity is—*sit venia verbo*—rubbish. It could never be urged by one who was not already on other grounds prejudiced in favor of determinism. In one of his earliest works, Helmholtz, who as well as any living man may claim to give voice to the scientific spirit, says that when the proximate causes of phenomena are alterable themselves, we must seek further for a cause of their alteration, and so on till we reach an unalterable principle.

“Now, whether [he continues], all events are to be carried back to such causes, whether nature be fully

explicable, or whether changes occur in it which do not fall under the law of necessary causality, and *do* consequently belong to the realm of freedom or spontaneity, cannot now be decided. It is, at all events, clear that a science whose object it is to understand nature must start with the assumption of her intelligibility, and conclude and enquire according to this assumption until it at last is forced by irrefutable facts to the admission of its own limitations."

The "assumption" of a fixed law in natural science is thus, according to this authority, an intellectual *postulate*, just as the assumption of an ultimate law of indetermination might be a moral postulate in treating of certain human deliberations. Is each assumption true in its sphere, or is determinism universal? Since no man can decide empirically, must one remain for ever uncertain, or shall one anticipate evidence and boldly choose one's side? Apart from the fact that doubt is practically impossible in certain cases which touch the conduct of life, doubt itself is an active state, one of voluntary inhibition or suspense. So that whichever plan one adopts, one's state is the result of other facts than pure receptivity of intelligence. The entire nature of the man, intellectual, affective, and volitional, is (whether avowedly or not) exhibited in the theoretic attitude he takes in such a question as this. And this leads M. Renouvier to a most vigorous and original discussion of the ultimate grounds of certitude, of belief *in general*, from which he returns to make his decision about this particular point. All yard-stick criteria of certi-

tude have failed. Mr. Spencer's "inconceivability of the opposite" breaks down from the practical impossibility of unanimity in any given case. When the Philosopher of Evolution says we *ought* to find the opposite of his First Principles inconceivable and dubs us "*pseudo*" thinkers if we do not, he simply begs the question and appeals to the authority of his personal insight as against ours. Now, says Renouvier, such an appeal is at bottom inevitable so soon as we leave the narrow standing-point of the present moment in consciousness (pyrrhonism). This latter alone is the *aliquid inconcussum* philosophers have sought; but it is barren. Beyond it everywhere is doubt.

"The radical sign of will, the essential mark of that achieved development which makes man capable of speculating on all things and raises him to his dignity of an independent and autonomous being, is the possibility of doubt. . . . The ignorant man doubts little, the fool still less, the madman not at all. . . . Certitude is not and cannot be an absolute condition. It is, what is too often forgotten, a state and an act of man . . . a state in which he posits his consciousness, such as it is, and stands by it. Properly speaking, there is no certitude; all there is is men who are certain. . . . Certitude is thus nothing but belief . . . a moral attitude."

Thus in every wide theoretical conclusion we must seem more or less arbitrarily to *choose* our side. Of course the choice may at bottom be pre-determined in each case, but also it may not. This brings us back to our theoretical dilemma about

freedom, concerning which we must now bow to the necessity of making a choice; for suspense itself would be a choice, and a most practical one, since by it we should forfeit the possible benefits of boldly espousing a possible truth. If this *be* a moral world, there are cases in which any indecision about its being so must be death to the soul. Now, if our choice is predetermined, there is an end of the matter; whether predetermined to the truth of fatality or the delusion of liberty, is all one for us. But if our choice is truly free, then the only possible way of getting at that truth is by the exercise of the freedom which it implies. Here the act of belief and the object of belief coalesce, and the very essential logic of the situation demands that we wait not for any outward sign, but, with the possibility of doubting open to us, voluntarily take the alternative of faith. Renouvier boldly avows the full conditions under which alone we can be right if freedom is true, and says: "Let our liberty pronounce on its own real existence." It and necessity being alike indemonstrable by any quasi-material process, must be *postulated* if taken at all.

"I prefer to affirm my liberty and to affirm it by means of my liberty. . . . My moral and practical certitude begins *logically* by the certitude of my freedom, just as *practically* my freedom has always had to intervene in the constitution of my speculative certitude."

Others need not decide in the same way, but let them confess, if their way is determinism, that un-

less they deduce it *a priori* from the existence of a metaphysical substance, they *choose* it just as our author chooses his way, because on the whole they prefer it. This fact is usually unconsciously smuggled out of sight; but, concealed or expressed, it debars either side from protesting on grounds of logical method, or form of procedure, against the other. The protest must come from extra-logical considerations; and the ultimate decision of which side is right and which wrong shall only be reached *ambulando* or at the final integration of things, if at all. Of course, freedom thus carried into the very heart of our theoretic activity becomes the cornerstone of our author's philosophy, and by its use he thinks "the minimum of faith produces the maximum of result."

VI

RENAN'S "DIALOGUES"¹

[1876]

"Encore une étoile qui file;
File, file, et disparaît!"

THIS last production of a writer who at one time seemed, to say the least, the most exquisite literary genius of France, is really sad reading for any one who would gladly be assured that that country is robust and fertile still. It seems to us no less than an example of mental ruin—the last expression of a nature in which the seeds of insincerity and foppishness, which existed at the start alongside of splendid powers, have grown up like rank weeds and smothered the better possibilities. The dialogues which form the only new part of the book are simply priggishness rampant, an indescribable unmanliness of tone compounded of a sort of histrionically sentimental self-conceit, and a nerveless and boneless fear of what will become of the universe if "l'homme vulgaire" is allowed to go on. M. Renan's idea of God seems to be that of a power to whom one may successfully go like a tell-tale child and say: "Please, won't you make 'l'homme vul-

[¹ Review of *Dialogues et Fragments Philosophiques*, by Ernest Renan, Paris, 1876. Reprinted with omissions from *Nation*, 1876, 23, 78-79. Ed.]

gaire' stop?" As the latter waxes every day more fat and insolent, the belief in God burns dim, and is replaced by the idea of a kind of cold-blooded destiny whose inscrutable and inhuman purposes we are blindly serving, with at most the relief of making piquant guesses and epigrams as we go, about our Master and ourselves.

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The other papers in the volume show the same qualities and defects—sweetness of diction and delicacy of apprehension in detail, with vagueness, pretension, and deep ignorance of the subject where the subject is the history of philosophic thought. The best excuse one can make for them is that they are but half sincere. But, in a writer of Renan's peculiar pretensions, that is a fatal excuse. In his earlier writings all the suavities and many of the severities of language were employed in painting the distinction between the "âme d'élite," the "esprit honnête," and the common man; how the latter was wedded to superficiality and passive enjoyment, whilst the former found austere "joys of the soul" in the pursuit of wisdom and virtue. These surely imply sincerity. The gifted writer particularly congratulated himself on having preserved the vigor of his soul "*dans un pays éteint, en un siècle sans espérance. . . . Consolons nous,*" he cried, "*par nos chimères, par notre noblesse, par notre dédain!*" "The true atheist is the frivolous man" is one of his early phrases which has been often quoted. But already in his

Antichrist, published after the Commune, he spoke of the summit of wisdom being the persuasion that at bottom all is vanity; and if this book be really half trifling, he would seem practically to have espoused that persuasion—in other words, to have become a frivolous man, or, according to his own definition, an atheist. Indeed, if one were to seek a single phrase which should define the essence of religion, it would be the phrase: all is *not* vanity. The solace and anæsthetic which lies in the conclusion of Ecclesiastes is good for many of us; but M. Renan's ostentatious pretension to an exquisite sort of religious virtue has debarred him from the right to enjoy its comforts. That *esprit vulgaire*, Josh Billings, says that if you have \$80,000 at interest, and own the house you live in, it is not much trouble to be a philosopher. M. Renan, after parading before our envious eyes in fine weather the spectacle of a man *savourer-ing* his *dédain* and enjoying the exquisitely voluptuous sensation of tasting his own spiritual pre-eminence, must not take it hard if we insist on a little more courage in him when the wind begins to blow. We do not know any better than he what the Democratic religion which is invading the Western world has in store for us. We dislike the "Commune" as well as he; but it is a fair presumption that the cards of humanity have not all been played out. And meanwhile, since no one has any authoritative information about the final upshot of things, and yet, since all men have a mighty desire to *get on* if they can, it cannot be too often repeated

that they will all use the *practical* standard in measuring the excellence of their brother men: not the man of the most delicate sensibility but he who on the whole is the most *helpful* man will be reckoned the best man. The political or spiritual hero will always be the one who, when others crumbled, stood firm till a new order built itself around him; who showed a way out and beyond where others could only see written "no thoroughfare." M. Renan's dandified despair has nothing in common with this type.

VII

LEWES'S "PHYSICAL BASIS OF MIND"¹

[1877]

THOSE readers whom the superiority of the second volume of Mr. Lewes's *Problems* over the first has led to expect an even crescendo of excellence in that ponderous and somewhat pretentious publication, will be much disappointed after reading this third instalment. The diffuseness and damnable iteration are there as much as ever, but the new truths hang fire and fail to appear. It seems indeed as if the author had started to write rather with a vague aspiration after *some* truth than a distinct apprehension of any, and were letting his pen run on in the persuasion that a great discovery would surely trickle out of it, if only the scythe of Chronos might not cut him short. This is truly an excellent way of making discoveries, but usually it is the discovery that we publish, while the process is suppressed. Mr. Lewes has given us the process in five hundred pages, and—let us charitably say—reserved the discovery for the next volume. Constantly he seems on the point of making it. An un-

[¹ Opening paragraph of a review of G. H. Lewes's *Physical Basis of Mind*, 1877, the sequel to the book reviewed above, p. 4. Reprinted with omissions from *Nation*, 1877, 25, 290. Ed.]

impeachable scaffolding of first principles is laid down, the arguments seem to mass together like thunder-clouds, the air quivers with expectation, and we are sure that on turning the page the sacred rain will descend on our patient and thirsty souls, when lo! a new chapter begins with a new statement of the first principles, adorned with fresh illustrations: we forget the event we felt ourselves led up to, the sky empties itself again, and we return to our original drought. Not that the first principles of Mr. Lewes are not admirable. They surely are. But the mind can no more feed on pure first principles than the body can live on pure nitrogen and carbon. Only the *axiomata media* are fertile, and lead to particular discoveries. It is a bad sign when a thinker keeps falling back on abstractions so true that all must applaud them, but so broad that they form quite as good a shelter for one doctrine as for another. What boots it when we are really curious to find some one *elementary* factor or law of living matter to be told that "Life is the connexus of functions"? Or if a psychologist is really puzzling his brain about very special and particular difficulties, how can it profit him to be elaborately reminded by Mr. Lewes that confusion of terms is a great source of error, that we should everywhere keep account of special differences no less than fundamental identities, that property must never be confounded with function, that sensibility makes life a phenomenon of a higher order than mechanism, and the like? Not, indeed, since reading *Daniel De-*

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ronda have we been so annoyed by a writer's redundancy, have we found ourselves so persistently seized by the button and moralized to when we were most impatient for the story to move along and for the author to effect something with his materials.

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VIII

REMARKS ON SPENCER'S DEFINITION OF MIND AS CORRESPONDENCE ¹

[1878]

AS a rule it may be said that, at a time when readers are so overwhelmed with work as they are at the present day, all purely critical and destructive writing ought to be reprobated. The half-gods generally refuse to go, in spite of the ablest criticism, until the gods actually *have* arrived; but then, too, criticism is hardly needed. But there are cases in which every rule may be broken. "What!" exclaimed Voltaire, when accused of offering no substitute for the Christianity he attacked, "*je vous délivre d'une bête féroce, et vous me demandez par quoi je la remplace!*" Without comparing Mr. Spencer's definition of Mind either to Christianity or to a "*bête féroce*," it may certainly be said to be very far-reaching in its consequences, and, accord-

[¹ Reprinted from *Journal of Speculative Philosophy*, 1878, 12, 1-18. The central idea of this essay is the teleological character of mind. This idea may be said to be the germinal idea of James's psychology, epistemology, and philosophy of religion. Cf. *Will to Believe*, p. 117 ("Reflex Action and Theism"), where this essay is referred to, with the remark that "the conceiving or theorizing faculty . . . functions *exclusively for the sake of ends* that . . . are set by our emotional and practical subjectivity." Ed.]

ing to certain standards, noxious; whilst probably a large proportion of those hard-headed readers who subscribe to the *Popular Science Monthly* and *Nature*, and whose sole philosopher Mr. Spencer is, are fascinated by it without being in the least aware what its consequences are.

The defects of the formula are so glaring that I am surprised it should not long ago have been critically overhauled. The reader will readily recollect what it is. In part III of his *Principles of Psychology*,¹ Mr. Spencer, starting from the supposition that the most essential truth concerning mental evolution will be that which allies it to the evolution nearest akin to it, namely, that of Life, finds that the formula "*adjustment of inner to outer relations*," which was the definition of life, comprehends also "the entire process of mental evolution." In a series of chapters of great apparent thoroughness and minuteness he shows how all the different grades of mental perfection are expressed by the degree of extension of this adjustment, or, as he here calls it, "correspondence," in space, time, specialty, generality, and integration. The polyp's tentacles contract only to immediately present stimuli, and to almost all alike. The mammal will store up food for a day, or even for a season; the bird will start on its migration for a goal hundreds of miles away; the savage will sharpen his arrows to hunt next year's game; while the astronomer will proceed, equipped with all his instru-

[¹ Published in 1855. Ed.]

ments, to a point thousands of miles distant, there to watch, at a fixed day, hour, and minute, a transit of Venus or an eclipse of the Sun.

The picture drawn is so vast and simple, it includes such a multitude of details in its monotonous frame-work, that it is no wonder that readers of a passive turn of mind are, usually, more impressed by it than by any portion of the book. But on the slightest scrutiny its solidity begins to disappear. In the first place, one asks, what right has one, in a formula embracing professedly the "entire process of mental evolution," to mention only phenomena of cognition, and to omit all sentiments, all æsthetic impulses, all religious emotions and personal affections? The ascertainment of outward fact constitutes only one species of mental activity. The genus contains, in addition to purely cognitive judgments, or judgments of the actual—judgments that things do, as a matter of fact, exist so or so—an immense number of emotional judgments: judgments of the ideal, judgments that things *should* exist thus and not so. How much of our mental life is occupied with this matter of a better or a worse? How much of it involves preferences or repugnances on our part? We cannot laugh at a joke, we cannot go to one theatre rather than another, take more trouble for the sake of our own child than our neighbor's; we cannot long for vacation, show our best manners to a foreigner, or pay our pew rent, without involving in the premises of our action some element which has nothing what-

ever to do with simply cognizing the actual, but which, out of alternative possible actuals, selects one and cognizes that as the ideal. In a word, "Mind," as we actually find it, contains all sorts of laws—those of logic, of fancy, of wit, of taste, decorum, beauty, morals, and so forth, as well as of perception of fact. Common sense estimates mental excellence by a combination of all these standards, and yet how few of them correspond to anything that actually *is*—they are laws of the Ideal, dictated by subjective *interests* pure and simple. Thus the greater part of Mind, quantitatively considered, refuses to have anything to do with Mr. Spencer's definition. It is quite true that these ideal judgments are treated by him with great ingenuity and felicity at the close of his work—indeed, his treatment of them there seems to me to be its most admirable portion. But they are there handled as separate items having no connection with that extension of the "correspondence" which is maintained elsewhere to be the all-sufficing law of mental growth.

Most readers would dislike to admit without coercion that a law was adequate which obliged them to erase from literature (if by literature were meant anything worthy of the title of "mental product") all works except treatises on natural science, history, and statistics. Let us examine the reason that Mr. Spencer appears to consider coercive.

It is this: That, since every process grows more

and more complicated as it develops, more swarmed over by incidental and derivative conditions which disguise and adulterate its original simplicity, the only way to discover its true and essential form is to trace it back to its earliest beginning. There it will appear in its genuine character pure and undefiled. Religious, æsthetic, and ethical judgments, having grown up in the course of evolution, by means that we can very plausibly divine, of course may be stripped off from the main stem of intelligence and leave that undisturbed. With a similar intent Mr. Tylor says: "Whatever throws light on the origin of a conception throws light on its validity." Thus, then, there is no resource but to appeal to the polyp, or whatever shows us the form of evolution just *before* intelligence, and what that, and only what that, contains will be the root and heart of the matter.

But no sooner is the reason for the law thus enunciated than many objections occur to the reader. In the first place, the general principle seems to lead to absurd conclusions. If the embryologic line of appeal can alone teach us the genuine essences of things, if the polyp is to dictate our law of mind to us because he came first, where are we to stop? He must himself be treated in the same way. Back of him lay the not-yet-polyp, and, back of all, the universal mother, fire-mist. To seek there for the reality, of course would reduce all thinking to nonentity, and, although Mr. Spencer would probably not regard this conclusion as a *reductio ad*

absurdum of his principle, since it would only be another path to his theory of the Unknowable, less systematic thinkers may hesitate. But, waiving for the moment the question of principle, let us admit that relatively to *our* thought, at any rate, the polyp's thought is pure and undefiled. Does the study of the polyp lead us distinctly to Mr. Spencer's formula of correspondence? To begin with, if that formula be meant to include disinterested scientific curiosity, or "correspondence" in the sense of cognition, with no ulterior selfish end, the polyp gives it no countenance whatever. He is as innocent of scientific as of moral and æsthetic enthusiasm; he is the most narrowly teleological of organisms; reacting, so far as he reacts at all, only for self-preservation.

This leads us to ask what Mr. Spencer exactly means by the word correspondence. Without explanation, the word is wholly indeterminate. Everything corresponds in some way with everything else that co-exists in the same world with it. But, as the formula of correspondence was originally derived from biology, we shall possibly find in our author's treatise on that science an exact definition of what he means by it. On seeking there, we find nowhere a definition, but numbers of synonyms. The inner relations are "adjusted," "conformed," "fitted," "related," to the outer. They must "meet" or "balance" them. There must be "concord" or "harmony" between them. Or, again, the organism must "counteract" the changes in the environment.

But these words, too, are wholly indeterminate. The fox is most beautifully "adjusted" to the hounds and huntsmen who pursue him; the limestone "meets" molecule by molecule the acid which corrodes it; the man is exquisitely "conformed" to the *trichina* which invades him, or to the typhus poison which consumes him; and the forests "harmonize" incomparably with the fires that lay them low. Clearly, a further specification is required; and, although Mr. Spencer shrinks strangely from enunciating this specification, he everywhere works his formula so as to imply it in the clearest manner.

Influence on physical well-being or survival is his implied criterion of the rank of mental action. The moth which flies into the candle, instead of away from it, "fails," in Spencer's words (vol. I, p. 409), to "correspond" with its environment; but clearly, in this sense, pure cognitive inference of the existence of heat after a perception of light would not suffice to constitute correspondence; while a moth which, on feeling the light, should merely vaguely fear to approach it, but have no proper image of the heat, would "correspond." So that the Spencerian formula, to mean anything definite at all, must, at least, be re-written as follows: "Right or intelligent mental action consists in the establishment, corresponding to outward relations, of such inward relations and reactions as will favor the survival of the thinker, or, at least, his physical well-being."

Such a definition as this is precise, but at the

same time it is frankly teleological. It explicitly postulates a distinction between mental action pure and simple, and *right* mental action; and furthermore, it proposes, as criteria of this latter, certain ideal ends—those of physical prosperity or survival, which are pure *subjective interests* on the animal's part, brought with it upon the scene and corresponding to no relation already there.¹ No mental action is right or intelligent which fails to fit this standard. No correspondence can pass muster till it shows its subservience to these ends. Corresponding itself to no actual outward thing; referring merely to a future which *may* be, but which these interests now say *shall* be; purely ideal, in a word, they judge, dominate, determine all corre-

¹These interests are the real *a priori* element in cognition. By saying that their pleasures and pains have nothing to do with correspondence, I mean simply this: To a large number of terms in the environment there may be inward correlatives of a neutral sort as regards feeling. The "correspondence" is already there. But, now, suppose some to be accented with pleasure, others with pain; that is a fact additional to the correspondence, a fact with no outward correlative. But it immediately orders the correspondences in this way: that the pleasant or interesting items are singled out, dwelt upon, developed into their farther connections, whilst the unpleasant or insipid ones are ignored or suppressed. The future of the Mind's development is thus mapped out in advance by the way in which the lines of pleasure and pain run. The interests precede the outer relations noticed. Take the utter absence of response of a dog or a savage to the greater mass of environing relations. How can you alter it unless you previously *awaken an interest*—i.e., produce a susceptibility to intellectual pleasure in certain modes of cognitive exercise? Interests, then, are an all-essential factor which no writer pretending to give an account of mental evolution has a right to neglect.

spondences between the inner and the outer. Which is as much as to say that *mere* correspondence with the outer world is a notion on which it is wholly impossible to base a definition of mental action. Mr. Spencer's occult reason for leaving unexpressed the most important part of the definition he works with probably lies in its apparent implication of subjective spontaneity. The mind, according to his philosophy, should be pure product, absolute derivative from the non-mental. To make it dictate conditions, bring independent interests into the game which may determine what we shall call correspondence, and what not, might, at first sight, appear contrary to the notion of evolution which forbids the introduction at any point of an absolutely new factor. In what sense the existence of survival interest does postulate such a factor we shall hereafter see. I think myself that it is possible to express all its outward results in non-mental terms. But the unedifying look of the thing, its simulation of an independent mental teleology, seems to have frightened Mr. Spencer here, as elsewhere, away from a serious scrutiny of the facts. But let us be indulgent to his timidity, and assume that survival was all the while a "mental reservation" with him, only excluded from his formula by reason of the comforting sound it might have to Philistine ears.

We should then have, as the embodiment of the highest ideal perfection of mental development, a creature of superb cognitive endowments, from

whose piercing perceptions no fact was too minute or too remote to escape; whose all-embracing foresight no contingency could find unprepared; whose invincible flexibility of resource no array of outward onslaught could overpower; but in whom all these gifts were swayed by the single passion of love of life, of survival at any price. This determination, filling his whole energetic being, consciously realized, intensified by meditation, becomes a fixed idea, would use all the other faculties as its means, and, if they ever flagged, would by its imperious intensity spur them and hound them on to ever fresh exertions and achievements. There can be no doubt that, if such an incarnation of earthly prudence existed, a race of beings in whom this monotonously narrow passion for self-preservation were aided by every cognitive gift, they would soon be kings of all the earth. All known human races would wither before their breath, and be as dust beneath their conquering feet.

But whether any Spencerian would hail with hearty joy their advent is another matter. Certainly Mr. Spencer would not; while the common sense of mankind would stand aghast at the thought of them. Why does common opinion abhor such a being? Why does it crave greater "richness" of nature in its mental ideal? Simply because, to common sense, survival is only one out of many interests—*primus inter pares*, perhaps, but still in the midst of peers. What are these interests? Most men would reply that they are all that

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makes survival worth securing. The social affections, all the various forms of play, the thrilling intimations of art, the delights of philosophic contemplation, the rest of religious emotion, the joy of moral self-approbation, the charm of fancy and of wit—some or all of these are absolutely required to make the notion of mere existence tolerable; and individuals who, by their special powers, satisfy these desires are protected by their fellows and enabled to survive, though their mental constitution should in other respects be lamentably ill—"adjusted" to the outward world. The story-teller, the musician, the theologian, the actor, or even the mere charming fellow, have never lacked means of support, however helpless they might individually have been to conform with those outward relations which we know as the powers of nature. The reason is very plain. To the individual man, as a social being, the interests of his fellow are a part of his environment. If his powers correspond to the wants of this social environment, he may survive, even though he be ill-adapted to the natural or "outer" environment. But these wants are pure subjective ideals, with nothing outward to correspond to them. So that, as far as the individual is concerned, it becomes necessary to modify Spencer's survival formula still further, by introducing into the term environment a reference, not only to existent things¹, but also to ideal wants. It would have

[¹The word "non-existent" has been omitted as being due, apparently, to a misprint. Ed.]

to run in some such way as this: "Excellence of the individual mind consists in the establishment of inner relations more and more extensively conformed to the outward facts of nature, and to the ideal wants of the individual's fellows, but all of such a character as will promote survival or physical prosperity."

But here, again, common sense will meet us with an objection. Mankind desiderate certain qualities in the individual which are incompatible with his chance of survival being a maximum. Why do we all so eulogize and love the heroic, recklessly generous, and disinterested type of character? These qualities certainly imperil the survival of their possessor. The reason is very plain. Even if headlong courage, pride, and martyr-spirit do ruin the individual, they benefit the community as a whole whenever they are displayed by one of its members against a competing tribe. "It is death to you, but fun for us." Our interest in having the hero as he is, plays indirectly into the hands of our survival, though not of his.

This explicit acknowledgment of the survival interests of the tribe, as accounting for many interests in the individual which seem at first sight either unrelated to survival or at war with it, seems, after all, to bring back unity and simplicity into the Spencerian formula. Why, the Spencerian may ask, may not all the luxuriant foliage of ideal interests—æsthetic, philosophic, theologic, and the rest—which co-exist along with that of survival, be pres-

ent in the tribe and so form part of the individual's environment, merely by virtue of the fact that they minister in an indirect way to the survival of the tribe as a whole? The disinterested scientific appetite of cognition, the sacred philosophic love of consistency, the craving for luxury and beauty, the passion for amusement, may all find their proper significance as processes of mind, strictly so-called, in the incidental utilitarian discoveries which flow from the energy they set in motion. Conscience, thoroughness, purity, love of truth, susceptibility to discipline, eager delight in fresh impressions, although none of them are traits of Intelligence *in se*, may thus be marks of a general mental energy, without which victory over nature and over other human competitors would be impossible. And, as victory means survival, and survival is the criterion of Intelligent "Correspondence," these qualities, though not expressed in the fundamental law of mind, may yet have been all the while understood by Mr. Spencer to form so many secondary consequences and corollaries of that law.

But here it is decidedly time to take our stand and refuse our aid in propping up Mr. Spencer's definition by any further good-natured translations and supplementary contributions of our own. It is palpable at a glance that a mind whose survival interest could only be adequately secured by such a wasteful array of energy squandered on side issues would be immeasurably inferior to one like that which we supposed a few pages back, in which

the monomania of tribal preservation should be the one all-devouring passion.

Surely there is nothing in the essence of intelligence which should oblige it forever to delude itself as to its own ends, and to strive towards a goal successfully only at the cost of consciously appearing to have far other aspirations in view.

A furnace which should produce along with its metal fifty different varieties of ash and slag, a planing-mill whose daily yield in shavings far exceeded that in boards, would rightly be pronounced inferior to one of the usual sort, even though more energy should be displayed in its working, and at moments some of that energy be directly effective. If ministry to survival be the sole criterion of mental excellence, then luxury and amusement, Shakespeare, Beethoven, Plato, and Marcus Aurelius, stellar spectroscopy, diatom markings, and nebular hypotheses are by-products on too wasteful a scale. The slag-heap is too big—it abstracts more energy than it contributes to the ends of the machine; and every serious evolutionist ought resolutely to bend his attention henceforward to the reduction in number and amount of these outlying interests, and the diversion of the energy they absorb into purely prudential channels.

Here, then, is our dilemma: One man may say that the law of mental development is dominated solely by the principle of conservation; another, that richness is the criterion of mental evolution; a third, that pure cognition of the actual is the es-

sence of worthy thinking—but who shall pretend to decide which is right? The umpire would have to bring a standard of his own upon the scene, which would be just as subjective and personal as the standards used by the contestants. And yet some standard there must be, if we are to attempt to define in any way the worth of different mental manifestations.

Is it not already clear to the reader's mind that the whole difficulty in making Mr. Spencer's law work lies in the fact that it is not really a constitutive, but a regulative, law of thought which he is erecting, and that he does not frankly say so? Every law of Mind must be either a law of the *cogitatum* or a law of the *cogitandum*. If it be a law in the sense of an analysis of what we *do* think, then it will include error, nonsense, the worthless as well as the worthy, metaphysics, and mythologies as well as scientific truths which mirror the actual environment. But such a law of the *cogitatum* is already well known. It is no other than the association of ideas according to their several modes; or, rather, it is this association definitively perfected by the inclusion of the teleological factor of interest by Mr. Hodgson in the fifth chapter of his masterly "Time and Space."

That Mr. Spencer, in the part of his work which we are considering, has no such law as this in view is evident from the fact that he has striven to give an original formulation to such a law in another part of his book, in that chapter, namely, on the

associability of relations, in the first volume, where the apperception of times and places, and the suppression of association by similarity, are made to explain the facts in a way whose operose ineptitude has puzzled many a simple reader.

Now, every living man would instantly define right thinking as thinking in correspondence with reality. But Spencer, in saying that right thought is that which conforms to existent outward relations, and this exclusively, undertakes to decide what the reality *is*. In other words, under cover of an apparently formal definition he really smuggles in a material definition of the most far-reaching import. For the Stoic, to whom *vivere convenienter naturæ* was also the law of mind, the reality was an archetypal Nature; for the Christian, whose mental law is to discover the will of God, and make one's actions correspond thereto, *that* is the reality. In fact, the philosophic problem which all the ages have been trying to solve in order to make thought in some way correspond with it, and which disbelievers in philosophy call insoluble, is just that: What is the reality? All the thinking, all the conflict of ideals, going on in the world at the present moment is in some way tributary to this quest. To attempt, therefore, with Mr. Spencer, to decide the matter merely incidentally, to forestall discussion by a definition—to carry the position by surprise, in a word—is a proceeding savoring more of piracy than philosophy. No, Spencer's definition of what we ought to think cannot be suffered to lurk in am-

bush ; it must stand out explicitly with the rest, and expect to be challenged and give an account of itself like any other ideal norm of thought.

We have seen how he seems to vacillate in his determination of it. At one time, "scientific" thought, mere passive mirroring of outward nature, purely registrative cognition ; at another time, thought in the exclusive service of survival, would seem to be his ideal. Let us consider the latter ideal first, since it has the polyp's authority in its favor : "We must survive—that end must regulate all our thought." The poor man who said to Talleyrand, "*Il faut bien que je vive!*" expressed it very well. But criticise this ideal, or transcend it as Talleyrand did by his cool reply, "*Je n'en vois pas la nécessité,*" and it can say nothing more for itself. *A priori* it is a mere brute teleological affirmation on a par with all others. Vainly you should hope to prove it to a person bent on suicide, who has but the one longing—to escape, to cease. Vainly you would argue with a Buddhist or a German pessimist, for they feel the full imperious strength of the desire, but have an equally profound persuasion of its essential wrongness and mendacity. Vainly, too, would you talk to a Christian, or even to any believer in the simple creed that the deepest meaning of the world is moral. For they hold that mere conformity with the outward—worldly success and survival—is not the absolute and exclusive end. In the *failures* to "adjust"—in the rubbish-heap, according to Spencer—lies, for them, the real key to the truth—the

sole mission of life being to teach that the outward actual is not the whole of being.

And now—if, falling back on the scientific ideal, you say that to *know* is the one τέλος of intelligence—not only will the inimitable Turkish cadi in Layard's Nineveh praise God in your face that he seeks not that which he requires not, and ask, "Will much knowledge create thee a double belly?"—not only may I, if it please me, legitimately refuse to stir from my fool's paradise of theosophy and mysticism, in spite of all your calling (since, after all, your true knowledge and my pious feeling have alike nothing to back them save their seeming good to our respective personalities)—not only this, but to the average sense of mankind, whose ideal of mental nature is best expressed by the word "richness," your statistical and cognitive intelligence will seem insufferably narrow, dry, tedious, and unacceptable.

The truth appears to be that every individual man may, if it please him, set up his private categorical imperative of what rightness or excellence in thought shall consist in, and these different ideals, instead of entering upon the scene armed with a warrant—whether derived from the polyp or from a transcendental source—appear only as so many brute affirmations left to fight it out upon the chess-board among themselves. They are, at best, postulates, each of which must depend on the general consensus of experience as a whole to bear out its validity. The formula which proves to have the

most massive destiny will be the true one. But this is a point which can only be solved *ambulando*, and not by any *a priori* definition. The attempt to forestall the decision is free to all to make, but all make it at their risk. Our respective hypotheses and postulates help to shape the course of thought, but the only thing which we all agree in assuming is, that thought will be coerced away from them if they are wrong. If Spencer to-day says, "Bow to the actual," whilst Swinburne spurns "compromise with the nature of things," I exclaim, "*Fiat justitia, pereat mundus*," and Mill says, "To hell I will go, rather than 'adjust' myself to an evil God," what umpire can there be between us but the future? The idealists and the empiricists confront each other like Guelphs and Ghibellines, but each alike waits for adoption, as it were, by the course of events.

In other words, we are all fated to be *a priori* teleologists whether we will or not. Interests which we bring with us, and simply posit or take our stand upon, are the very flour out of which our mental dough is kneaded. The organism of thought, from the vague dawn of discomfort or ease in the polyp to the intellectual joy of Laplace among his formulas, is teleological through and through. Not a cognition occurs but feeling is there to comment on it, to stamp it as of greater or less worth. Spencer and Plato are *ejusdem farinae*. To attempt to hoodwink teleology out of sight by saying nothing about it, is the vainest of procedures. Spencer merely takes sides with the τέλος he happens to

prefer, whether it be that of physical well-being or that of cognitive registration. He represents a particular teleology. Well might teleology (had she a voice) exclaim with Emerson's Brahma:

"If the red slayer think he slays,
Or if the slain think he is slain,
They know not well the subtle ways
I keep, and pass and turn again.

.

"They reckon ill who leave me out;
When me they fly, I am the wings;
I am the doubter and the doubt," etc.

But now a scientific man, feeling something uncanny in this omnipresence of a teleological factor dictating *how* the mind shall correspond—an interest seemingly tributary to nothing non-mental—may ask us what we meant by saying sometime back that in one sense it is perfectly possible to express the existence of interests in non-mental terms. We meant simply this: That the reactions or outward consequences of the interests could be so expressed. The interest of survival which has hitherto been treated as an ideal *should-be*, presiding from the start and marking out the way in which an animal must react, is, from an outward and physical point of view, nothing more than an objective future implication of the reaction (if it occurs) as an actual fact. If the animal's brain acts fortuitously in the right way, he survives. His young do the same. The reference to survival in no way preceded or conditioned the intelligent act;

but the fact of survival was merely bound up with it as an incidental consequence, and may, therefore, be called accidental, rather than instrumental, to the production of intelligence. It is the same with all other interests. They are pleasures and pains incidentally implied in the workings of the nervous mechanism, and, therefore, in their ultimate origin, non-mental; for the idiosyncrasies of our nervous centres are mere "spontaneous variations," like any of those which form the ultimate data for Darwin's theory. A brain which functions so as to insure survival may, therefore, be called intelligent in no other sense than a tooth, a limb, or a stomach, which should serve the same end—the sense, namely, of appropriate; as when we say "that is an intelligent device," meaning a device fitted to secure a certain end which we assume. If *nirvana* were the end, instead of survival, then it is true the means would be different, but in both cases alike the end would not precede the means, or even be coeval with them, but depend utterly upon them, and follow them in point of time. The fox's cunning and the hare's speed are thus alike creations of the non-mental. The τέλος they entail is no more an agent in one case than another, since in both alike it is a resultant. Spencer, then, seems justified in not admitting it to appear as an irreducible ultimate factor of Mind, any more than of Body.

This position is perfectly unassailable so long as one describes the phenomena in this manner from without. The τέλος in that case can only be hypo-

thetically, not imperatively, stated: *if* such and such be the end, then such brain functions are the most intelligent, just as such and such digestive functions are the most appropriate. But such and such cannot be declared *as* the end, except by the commenting mind of an outside spectator. The organs themselves, in their working at any instant, cannot but be supposed indifferent as to what product they are destined fatally to bring forth, cannot be imagined whilst fatally producing one result to have at the same time a notion of a different result which should be their truer end, but which they are unable to secure.

Nothing can more strikingly show, it seems to me, the essential difference between the point of view of consciousness and that of outward existence. We can describe the latter only in teleological terms, hypothetically, or else by the addition of a supposed contemplating mind which measures what it sees going on by its private teleological standard, and judges it intelligent. But consciousness itself is not merely intelligent in this sense. It is *intelligent intelligence*. It seems both to supply the means and the standard by which they are measured. It not only *serves* a final purpose, but *brings* a final purpose—posits, declares it. This purpose is not a mere hypothesis—"if survival is to occur, then brain must so perform," etc.—but an imperative decree: "Survival *shall* occur, and, therefore, brain *must* so perform!" It seems hopelessly impossible to formulate anything of this sort in non-

mental terms, and this is why I must still contend that the phenomena of subjective "interest," as soon as the animal consciously realizes the latter, appears upon the scene as an absolutely new factor, which we can only suppose to be latent thitherto in the physical environment by crediting the physical atoms, etc., each with a consciousness of its own, approving or condemning its motions.

This, then, must be our conclusion: That no law of the *cogitandum*, no normative receipt for excellence in thinking, can be authoritatively promulgated. The only formal canon that we can apply to mind which is unassailable is the barren truism that it must think rightly. We can express this in terms of correspondence by saying that thought must correspond with truth; but whether that truth be actual or ideal is left undecided.

We have seen that the invocation of the polyp to decide for us that it is actual (apart from the fact that he does not decide in that way) is based on a principle which refutes itself if consistently carried out. Spencer's formula has crumbled into utter worthlessness in our hands, and we have nothing to replace it by except our several individual hypotheses, convictions, and beliefs. Far from being vouched for by the past, these are verified only by the future. They are all of them, in some sense, laws of the ideal. They have to keep house together, and the weakest goes to the wall. The survivors constitute the right way of thinking. While the issue is still undecided, we can only call

them our prepossessions. But, decided or not, "go in" we each must for one set of interests or another. The question for each of us in the battle of life is, "Can we *come out* with it?" Some of these interests admit to-day of little dispute. Survival, physical well-being, and undistorted cognition of what is, will hold their ground. But it is truly strange to see writers like Messrs. Huxley and Clifford, who show themselves able to call most things in question, unable, when it comes to the interest of cognition, to touch it with their solvent doubt. They assume some mysterious imperative laid upon the mind, declaring that the infinite ascertainment of facts is its supreme duty, which he who evades is a blasphemer and child of shame. And yet these authors can hardly have failed to reflect, at some moment or other, that the disinterested love of information, and still more the love of consistency in thought (that true scientific *æstrus*), and the ideal fealty to Truth (with a capital T), are all so many particular forms of æsthetic interest, late in their evolution, arising in conjunction with a vast number of similar æsthetic interests, and bearing with them no *a priori* mark of being worthier than these. If we may doubt one, we may doubt all. How shall I say that knowing fact with Messrs. Huxley and Clifford is a better use to put my mind to than feeling good with Messrs. Moody and Sankey, unless by slowly and painfully finding out that in the long run it works best?

I, for my part, cannot escape the consideration, forced upon me at every turn, that the knower is not simply a mirror floating with no foot-hold anywhere, and passively reflecting an order that he comes upon and finds simply existing. The knower is an actor, and co-efficient of the truth on one side, whilst on the other he registers the truth which he helps to create. Mental interests, hypotheses, postulates, so far as they are bases for human action—action which to a great extent transforms the world—help to *make* the truth which they declare. In other words, there belongs to mind, from its birth upward, a spontaneity, a vote. It is in the game, and not a mere looker-on; and its judgments of the *should-be*, its ideals, cannot be peeled off from the body of the *cogitandum* as if they were excrescences, or meant, at most, survival. We know so little about the ultimate nature of things, or of ourselves, that it would be sheer folly dogmatically to say that an ideal rational order may not be real. The only objective criterion of reality is coerciveness, in the long run, over thought. Objective facts, Spencer's outward relations, are real only because they coerce sensation. Any interest which should be coercive on the same massive scale would be *eodem jure* real. By its very essence, the reality of a thought is proportionate to the way it grasps us. Its intensity, its seriousness—its interest, in a word—taking these qualities, not at any given instant, but as shown by the total upshot of experience. If judgments of the *should-be* are fated to grasp us in

this way, they are what "correspond." The ancients placed the conception of Fate at the bottom of things—deeper than the gods themselves. "The fate of thought," utterly barren and indeterminate as such a formula is, is the only unimpeachable regulative Law of Mind.

IX

QUELQUES CONSIDÉRATIONS SUR LA MÉTHODE SUBJECTIVE ¹

[1878]

AUX RÉDACTEURS DE LA *Critique philosophique*

Messieurs,

Depuis longtemps déjà, quand des idées noires, pessimisme, fatalisme, etc., me viennent obséder, j'ai l'habitude de m'en débarrasser par un raisonnement fort simple, et tellement d'accord avec les principes de la philosophie à laquelle votre revue est consacrée, que je m'étonne presque de ne l'avoir pas encore rencontré *totidem verbis* dans quelqu'un de vos cahiers hebdomadaires. J'ose vous le soumettre.

Il s'agit de savoir *si l'on est en droit de repousser une théorie confirmée en apparence par un nombre très-considérable de faits objectifs, uniquement parce qu'elle ne répond point à nos préférences intérieures.*

[¹ Reprinted from *Critique Philosophique*, 1878, 6me année, 2, 407-413. The present article is a brief preliminary statement of matters afterwards discussed in "Rationality, Activity and Faith," first published in the *Princeton Review* in 1882, and later reprinted in the *Will to Believe*. Cf. below, p. 83, note. The early date of the composition of this communication, and its flattering reception by Renouvier, show that James's interests and fame were from the beginning of his career identified with that philosophical tendency which culminated in his *Pragmatism*. See above, p. 43, note. Ed.]

On n'a pas ce droit, nous disent les hommes qui cultivent aujourd'hui les sciences, ou du moins presque tous, et tous les positivistes. Repousser une conclusion par ce seul motif qu'elle contrarie nos sentiments intimes et nos désirs, c'est faire emploi de la méthode subjective; et la méthode subjective, à les en croire, est le péché originel de la science, la racine de toutes les erreurs scientifiques. Suivant eux, loin d'aller où le portent ses attraits, l'homme qui cherche la vérité doit se réduire à la simple condition d'instrument enregistreur, faire de sa conscience de savant une sorte de feuille blanche et de surface morte, sur laquelle la réalité extérieure viendrait se retracer sans altération ni courbure.

Je nie absolument la légitimité d'un tel parti pris chez ceux qui prétendent le poser en règle universelle de la méthode. Cette règle est bonne à appliquer à un ordre de recherches, mais elle est dénuée de valeur, elle est même absurde, dans un autre ordre de vérités à trouver. Rejeter rigoureusement la méthode subjective partout où la vérité existe en dehors de mon action et se détermine avec certitude indépendamment de tout ce que je peux désirer ou craindre, rien de plus sage. Ainsi, les faits acquis de l'histoire, les mouvements futurs des astres sont dès maintenant déterminés, soit qu'ils me plaisent ou non comme ils sont ou seront. Mes préférences ici sont impuissantes à produire ou à modifier les choses et ne pourraient qu'obscurcir mon jugement. Je dois résolûment leur imposer silence.

Mais il est une classe de faits dont la matière n'est

point ainsi constituée ou fixée d'avance,—des faits qui ne sont pas *donnés*.—Je fais une ascension alpestre. Je me trouve dans un mauvais pas dont je ne peux sortir que par un saut hardi et dange-reux, et ce saut, je voudrais le pouvoir faire, mais j'ignore, faute d'expérience, si j'en aurai la force. Supposons que j'emploie la méthode subjective : je crois ce que je désire ; ma confiance me donne des forces et rend possible ce qui, sans elle, ne l'eût peut-être pas été. Je franchis donc l'espace et me voilà hors de danger. Mais supposons que je sois disposé à nier ma capacité, par ce motif qu'elle ne m'a pas encore été démontrée par ce genre d'ex-ploits : alors je balance, j'hésite, et tant et tant qu'à la fin, affaibli et tremblant, réduit à prendre un élan de pur désespoir, je manque mon coup et je tombe dans l'abîme. En pareil cas, quoi qu'il en puisse advenir, je ne serai qu'un sot si je ne crois pas ce que je désire, car ma croyance se trouve être une condition préliminaire, indispensable de l'ac-complissement de son objet qu'elle affirme. Croyant à mes forces, je m'élance ; le résultat donne raison à ma croyance, la *vérifie* ; c'est alors seulement qu'elle *devient vraie*, mais alors on peut dire aussi qu'elle *était vraie*. Il y a donc des cas où *une croy-ance crée sa propre vérification*. Ne croyez pas, vous aurez raison ; et, en effet, vous tomberez dans l'abîme. Croyez, vous aurez encore raison, car vous vous sauverez. Toute la différence entre les deux cas, c'est que le second vous est fort avantageux.

Dès que j'admets qu'une certaine alternative

existe, et que l'option pour moi n'est possible qu'à ce prix que je veuille fournir une contribution personnelle ; dès que je reconnais que cette contribution personnelle dépend d'un certain degré d'énergie subjective, qui lui-même a besoin, pour se réaliser, d'un certain degré de foi dans le résultat, et qu'ainsi l'avenir possible repose sur la croyance actuelle, je dois voir en quelle absurdité profonde je tomberais en voulant bannir la méthode subjective, la foi de l'esprit. Sur l'existence actuelle de cette foi, la possibilité de l'avenir se fonde. Cette foi peut tromper, très-bien. Les efforts dont elle me rend capable peuvent ne pas aboutir à créer un ordre de choses, qu'elle entrevoit et voudrait déterminer ; voilà qui est dit. Eh bien ! ma vie est manquée, c'est indubitable ; mais la vie de M. Huxley, par exemple, — de M. Huxley, qui écrivait dernièrement : "Croire parce qu'on voudrait croire serait faire preuve de la dernière immoralité", — cette vie ne serait-elle pas tout aussi manquée, s'il se trouvait par hasard que la croyance qu'il voudrait proscrire comme dénuée de garantie objective fût en définitive la vraie !

Le cas est toujours possible. Quoi qu'on fasse, en ce jeu qu'on appelle la vie, qu'on croie, qu'on doute, qu'on nie, on est également exposé à perdre. Est-ce une raison pour ne pas jouer ? Non, évidemment ; mais puisque ce qu'on perd est une quantité fixe (on ne fait après tout que payer de sa personne), c'est une raison de s'assurer, par tous les moyens légitimes qu'on a, qu'au cas que l'on gagne,

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le gain soit un maximum. Si, par exemple, on peut, en croyant, augmenter le grand bien qu'on poursuit, le prix possible, voilà une raison de *croire*.

Or, il'en est précisément ainsi touchant plusieurs de ces questions universelles, qui sont les problèmes de la philosophie. Prenons celle du pessimisme. Sans être arrivé partout à l'état de dogme philosophique, comme nous le voyons en Allemagne, le pessimisme pose à tout penseur un sérieux problème : A quoi bon la vie ? ou, comme on dit vulgairement, le jeu en vaut-il la chandelle ? Si on prend parti pour la réponse pessimiste, que gagne-t-on à avoir raison ? Pas grand'chose, assurément. Au contraire, on gagne un maximum, au cas qu'on ait raison en décidant en faveur de l'opinion qui tient que le monde est bon. Que pouvons-nous faire pour que ce monde soit bon ? y contribuer de notre part ; et comment une contribution minime peut-elle changer la valeur d'un total si grand ? en ce qu'elle est d'une *qualité* incomparablement supérieure. Telle est la qualité des faits de la vie morale.

Soit M la masse des faits indépendants de moi, et soit r ma réaction propre, le contingent des faits qui dérivent de mon activité personnelle. M contient, nous le savons, une somme immense de phénomènes de besoin, misère, vieillesse, douleur, et de choses faites pour inspirer le dégoût et l'effroi. Il se pourrait alors que r se produisît comme une réaction du désespoir, fût un acte de suicide, par exemple, $M + r$, la totalité avec ce qui me concerne, représenterait donc un état de choses mauvais de

tout point. Nul rayon dans cette nuit. Le pessimisme, dans cette hypothèse, se trouve parachevé par mon acte lui-même, dérive de ma croyance. Le voilà fait, et j'avais raison de l'affirmer.

Supposons, au contraire, que le sentiment du mal contenu dans *M*, au lieu de me décourager, n'ait fait qu'accroître ma résistance intérieure. Cette fois ma réaction sera l'opposé du désespoir; *r* contiendra patience, courage, dévouement, foi à l'invisible, toutes les vertus héroïques et les joies qui découlent de ces vertus. Or, c'est un fait d'expérience, et l'empirisme ne peut le contester, que de telles joies sont d'une valeur incomparable auprès des jouissances purement passives qui se trouvent exclues par le fait de la constitution de *M* telle qu'elle est. Si donc il est vrai que le bonheur moral est le plus grand bonheur actuellement connu; si, d'autre part, la constitution de *M*, par le mal qu'il contient et la réaction qu'il provoque, est la condition de ce bonheur, n'est-il pas clair que *M* est au moins *susceptible* d'appartenir au meilleur des mondes? Je dis *susceptible* seulement, parce que tout dépend du caractère de *r*. *M* en soi est ambigu, capable, selon le complément qu'il recevra, de figurer dans un pessimisme ou dans un optimisme moral.¹

¹ Il est clair qu'il ne faut pas donner ici à ce mot *optimisme* le sens qu'il a reçu par rapport aux questions de théodicée, ou celui qu'on y attache dans la philosophie de l'histoire: sens que résument les propositions: *Tout est bien, Tout est nécessaire*. Mais le *pessimisme* signifiant ci-dessus la doctrine du *Tout est mal*, on entend sans doute ici par l'*optimisme* non pas le *contraire logique*, mais simplement le *contradictoire logique* (pour employer les termes de l'École) de cette doctrine; à savoir non

Il fera difficilement partie d'un optimisme, si nous perdons notre énergie morale; il *pourra en* faire partie, si nous la conservons. Mais comment la conserver, à moins de croire à la possibilité d'une réussite, à moins de compter sur l'avenir et de se dire: Ce monde *est bon*, puisque, au point de vue moral, il est *ce que je le fais*, et que je le ferai bon? En un mot, comment exclure de la *connaissance* du fait la méthode subjective, alors que cette méthode est le propre instrument de la production du fait?

En toute proposition dont la portée est universelle, il faut que les actes du sujet et leurs suites sans fin soient renfermés d'avance dans la formule. Telle doit être l'extension de la formule $M + r$, dès qu'on la prend pour représenter le monde. Ceci posé, nos vœux, nos souhaits étant des coefficients réels du terme r , soit en eux-mêmes, soit par les croyances qu'ils nous inspirent ou, si l'on veut, par les hypothèses qu'ils nous suggèrent, on doit avouer que ces croyances engendrent une partie au moins de la vérité qu'elles affirment. Telles croyances, tels faits; d'autres croyances, d'autres faits. Et notons bien que tout ceci est indépendant de la question de la liberté absolue ou du déterminisme absolu. Si nos faits sont déterminés, c'est que nos croyances le sont aussi; mais déterminées ou non que soient ces dernières, elles sont une condition phénoménale nécessairement préalable aux faits,

pas que tout est bien, mais qu'il est faux que tout soit mal, qu'il y a du bien, que le monde *peut être bon*. Au delà les questions subsistent. (Note de la *Critique philosophique*.)

nécessairement constitutive, par conséquent, de la vérité que nous cherchons à connaître.

Voilà donc la méthode subjective justifiée logiquement, pourvu qu'on en limite convenablement l'emploi. Elle ne serait que pernicieuse, et il faut même dire immorale, appliquée à des cas où les faits à formuler ne renfermeraient pas comme facteur le terme subjectif *r*. Mais partout où entre un tel facteur, l'application en est légitime. Prenons encore ce problème pour exemple :

La nature intime du monde est-elle morale, ou le monde n'est-il qu'un pur fait, une simple existence actuelle? C'est au fond la question du matérialisme. Les positivistes objecteront qu'une question pareille est insoluble, ou même irrationnelle, attendu que la nature intime du monde, existât-elle, n'est pas un phénomène et ne peut en conséquence être vérifiée. Je réponds que toute question a un sens et se pose nettement, de laquelle résulte une claire alternative pratique, en telle sorte que, selon qu'on y réponde d'une manière ou d'une autre, on doive adopter une conduite ou une autre. Or, c'est le cas : le matérialiste et celui qui affirme une nature morale du monde devront agir différemment l'un de l'autre en bien des circonstances. Le matérialiste, quand les faits ne concordent pas avec ses sentiments moraux, est toujours maître de sacrifier ces derniers. Le jugement qu'il porte sur un fait, en tant que *bon* ou *mauvais*, est relatif à sa constitution psychique et en dépend ; mais cette constitution n'étant elle-même qu'un fait et *une donnée*,

n'est en soi ni bonne ni mauvaise. Il est donc permis de la modifier,—d'engourdir, par exemple, le sentiment moral à l'aide de toutes sortes de moyens,—et de changer ainsi le jugement, en transformant la donnée de laquelle il dérive. Au contraire, celui qui croit à la nature morale intime du monde, estime que les attributs de bien et de mal conviennent à tous les phénomènes et s'appliquent aux données psychiques aussi bien qu'aux faits relatifs à ces données. Il ne saurait donc songer, comme à une chose toute simple, à fausser ses sentiments. Ses sentiments eux-mêmes *doivent*, selon lui, être d'une manière et non d'une autre.

D'un côté donc, résistance au mal, pauvreté acceptée, martyre s'il le faut, la vie tragique, en un mot; de l'autre, les concessions, les accommodements, les capitulations de conscience et la vie épicurienne; tel est le partage entre les deux croyances. Observons seulement que leurs divergences ne se marquent avec force qu'aux moments décisifs et critiques de la vie, quand l'insuffisance des maximes journalières oblige de recourir aux grands principes. Là, la contradiction éclate. L'un dit: Le monde est chose sérieuse, partout et toujours, et il y a fondements pour le jugement moral. L'autre, le matérialiste, répond: Qu'importe comment je juge, puisque *vanitas vanitatum* est le fond de tout? Le dernier mot de la sagesse aux abois, pour celui-ci, c'est *anesthésie*; pour celui-là, *énergie*.

On voit que le problème a un sens, puisqu'il comporte deux solutions contradictoires dans la

pratique de la vie. Comment savoir à présent quelle solution est la bonne? Mais comment un savant sait-il si son hypothèse est la bonne? Il la prend pour bonne et il procède aux déductions, il agit en conséquence de ce qu'il a posé. Tôt ou tard les suites de son activité le détromperont, si son point de départ a été pris faussement. N'en est-il pas ici de même? Nous avons toujours affaire à $M+r$. Si M , en sa *nature intime*, est moral et que r soit fourni par un matérialiste, ces deux éléments sont en désaccord et ils iront s'écartant de plus en plus l'un de l'autre. La même divergence devra s'accuser au cas que l'agent règle sa conduite sur la croyance que le monde est un fait moral, et que le monde, en réalité, ne soit qu'un fait brut, une somme de phénomènes tout matériels. Des deux parts, il y a attente trompée; d'où la nécessité d'hypothèses subsidiaires, et de plus en plus compliquées, comme celles dont l'histoire de l'astronomie nous fournit un exemple dans la multiplicité des épicycles qu'on dut imaginer pour faire cadrer les faits de mieux en mieux observés avec le système de Ptolémée. Si donc le partisan du monde moral, en sa croyance, s'est déterminé pour l'hypothèse fausse, il éprouvera une suite de mécomptes et n'arrivera pas définitivement à la paix du cœur; il restera inconsolé dans ses peines; son choix *tragique* ne sera pas justifié.

Dans le cas contraire, $M+r$ formant une harmonie et non plus un assemblage d'éléments disparates, le temps irait confirmant l'hypothèse, et l'agent qui l'aurait embrassée aurait toujours plus de raisons

de se féliciter de son choix : il nagerait pour ainsi dire à pleines voiles dans la destinée qu'il se serait faite.

Le moyen est donc le même ici que dans les sciences, de prouver qu'une opinion est fondée, et nous n'en connaissons pas d'autre. Observons seulement que, selon les questions, le temps requis pour la vérification varie. Telle hypothèse, en physique, sera vérifiée au bout d'une demi-heure. Une hypothèse comme celle du transformisme demandera plus d'une génération pour s'établir solidement, et des hypothèses d'un ordre universel, telles que celles dont nous parlons, pourront rester sujettes au doute pendant bien des siècles encore. Mais en attendant il faut agir, et pour agir il faut choisir son hypothèse. Le doute même équivaut souvent à un choix actif. Du moment qu'on est obligé d'opter, il n'y a rien de plus rationnel que de donner sa préférence à celui des partis à prendre pour lequel on se sent le plus d'attrait, quitte ensuite à se voir démenti et condamné par la nature des choses si l'on a mal jugé. Au résumé *foi et working hypothesis* sont ici la même chose. Avec le temps, la vérité se dévoilera.

Je peux aller plus loin. Je demande pourquoi le matérialisme et la croyance en un monde moral ne seraient pas *l'un comme l'autre vérifiables* de la manière que je viens de dire? Qu'est-ce, en d'autres termes, qui empêche que *M* ne soit essentiellement ambigu et n'attende de son complément *r* la détermination ultime qui le fera ou rentrer

dans un système moral ou se réduire à un système de faits bruts?

Le cas est concevable. Telle ligne peut faire partie d'un nombre infini de courbes, tel mot peut entrer dans beaucoup de phrases différentes. Si nous avons affaire à un cas de ce genre, il pourrait dépendre de *r* de faire pencher la balance en un sens ou en l'autre. Agissons, je suppose, en nous inspirant de la croyance en l'univers moral : cette vérité que le monde est chose très-sérieuse éclatera chaque jour davantage. Au contraire, agissons en matérialistes, et la suite des temps montrera de plus en plus que le monde est chose frivole et que *vanitas vanitatum* est bien le fond de tout. Ainsi le monde sera ce que nous le ferons.

Et qu'on ne me dise pas qu'une chose infime telle que *r* ne saurait changer du tout au tout le caractère de *M*, cette masse immense. Une simple particule négative renverse bien le sens des plus longues phrases ! Si l'on avait à définir l'univers au point de vue de la sensibilité, il faudrait ne regarder qu'au seul règne animal, pourtant si pauvre comme fait *quantitatif*. La définition *morale* du monde pourrait dépendre de phénomènes plus restreints encore. Croyons à ce monde-là : les fruits de notre croyance remédieront aux défauts qui l'empêchaient d'être. Croyons qu'il n'est qu'une idée vaine, et en effet il sera vain. La méthode subjective est ainsi légitime en pratique et en théorie.

J'ai déjà remarqué qu'il n'était pas question de liberté absolue dans les exemples que j'ai pris.

Cette liberté peut être ou n'être pas réellement. Mais si des actes libres sont possibles, ils peuvent se produire et devenir plus fréquents, grâce à la méthode subjective. En effet, la foi en leur possibilité augmente l'énergie morale qui les suscite. Mais parler de liberté dans la *Critique philosophique*, c'est porter de l'or en Californie. J'aime donc mieux finir et me résumer en disant que je crois avoir montré dans la méthode subjective autre chose que le procédé qualifié de honteux par un étrange abus de l'esprit soi-disant scientifique. Il faut passer outre à cette espèce de proscription, à ce veto ridicule qui, si nous voulions nous y conformer, paralyserait deux de nos plus essentielles facultés : celle de nous proposer, en vertu d'un acte de croyance, un but qui ne peut être atteint que par nos propres efforts, et celle de nous porter courageusement à l'action dans les cas où le succès ne nous est pas assuré d'avance.

Croyez, messieurs, à la sympathie très-particulière avec laquelle je suis, votre tout dévoué,

WM. JAMES.

Harvard College, Cambridge (Mass.), États-Unis
d'Amérique, 20 nov. 1877.

¹ L'auteur du très-remarquable article qu'on vient de lire fait à la *Critique philosophique* beaucoup

[¹ This note, as well as that above on p. 74, was presumably written by Charles Renouvier, who was at this time editor of the *Critique Philosophique*. Cf. above, p. 26, note. Ed.]

d'honneur en voulant bien s'étonner de ce qu'il n'a pas encore rencontré l'expression de ses propres pensées *totidem verbis* dans nos pages. Il est vrai qu'elles sont en tout conformes à la méthode critique et nous nous estimerions heureux de pouvoir les signer. Mais la manière dont elles sont présentées, la forme originale du raisonnement et la saveur à la fois délicate et forte des leçons données à la fausse science par un homme qui est fort au courant de la vraie, impriment un réel cachet de personnalité à cette justification de la "méthode subjective." Nous sommes bien sûrs que nos lecteurs seront de notre avis, dussent-ils faire leurs réserves sur un point ou sur un autre, ou plutôt réclamer des éclaircissements qui parfois ne seraient pas de trop. Quant à nous, nous ne manquerons pas de reprendre ce grand sujet et d'essayer d'ajouter aux ingénieuses démonstrations de M. Wm. James, quelques-uns des nombreux commentaires qu'elles sont de nature à appeler.

X

THE SENTIMENT OF RATIONALITY ¹

[1879]

I

WHAT is the task which philosophers set themselves to perform? And why do they philosophise at all? Almost every one will immediately reply: They desire to attain a conception of the frame of things which shall on the whole be more rational than the rather fragmentary and chaotic one which everyone by gift of nature carries about with him under his hat. But suppose this rational conception attained by the philosopher, how is he to recognise it for what it is, and not let it slip through ignorance? The only answer can be that he will recognise its rationality as he recognises everything else, by certain subjective marks with which it af-

[¹ Reprinted from *Mind*, 1879, 4, 317-346. It was translated into French with a note of tribute by C. Renouvier, in *Critique Philosophique*, 1879, 8me année, 2, 72-89; 113-118; 129-136. Portions were combined with "Rationality, Activity and Faith" (*Princeton Review*, 1882, 2, 58-86) to form the essay entitled "The Sentiment of Rationality" in *The Will to Believe and other Essays* (1897). For the bearing of this present essay on James's general plan, cf. the author's note on p. 136, below. The statement of instrumentalism on pp. 86-88 below was reprinted as a note in the *Principles of Psychology* (1890), 2, pp. 335-336. Pencilled corrections by the author made in the copy of *Mind* belonging to the Harvard College Library have been adopted in the present reprinting. Ed.]

fects him. When he gets the marks he may know that he has got the rationality.

What then are the marks? A strong feeling of ease, peace, rest, is one of them. The transition from a state of puzzle and perplexity to rational comprehension is full of lively relief and pleasure.

But this relief seems to be a negative rather than a positive character. Shall we then say that the feeling of rationality is constituted merely by the absence of any feeling of irrationality? I think there are very good grounds for upholding such a view. All feeling whatever, in the light of certain recent psychological speculations, seems to depend for its physical condition not on simple discharge of nerve-currents, but on their discharge under arrest, impediment or resistance. Just as we feel no particular pleasure when we breathe freely, but a very intense feeling of distress when the respiratory motions are prevented; so any unobstructed tendency to action discharges itself without the production of much cogitative accompaniment, and any perfectly fluent course of thought awakens but little feeling. But when the movement is inhibited or when the thought meets with difficulties, we experience a distress which yields to an opposite feeling of pleasure as fast as the obstacle is overcome. It is only when the distress is upon us that we can be said to strive, to crave, or to aspire. When enjoying plenary freedom to energise either in the way of motion or of thought, we are in a sort of anæsthetic state in which we might say with Walt

Whitman, if we cared to say anything about ourselves at such times, "I am sufficient as I am". This feeling of the sufficiency of the present moment, of its absoluteness—this absence of all need to explain it, account for it or justify it—is what I call the Sentiment of Rationality. As soon, in short, as we are enabled from any cause whatever to think of a thing with perfect fluency, that thing seems to us rational.

Why we should constantly gravitate towards the attainment of such fluency cannot here be said. As this is not an ethical but a psychological essay, it is quite sufficient for our purposes to lay it down as an empirical fact that we strive to formulate rationally a tangled mass of fact by a propensity as natural and invincible as that which makes us exchange a hard high stool for an arm-chair or prefer travelling by railroad to riding in a springless cart.

Whatever modes of conceiving the cosmos facilitate this fluency of our thought, produce the sentiment of rationality. Conceived in such modes Being vouches for itself and needs no further philosophic formulation. But so long as mutually obstructive elements are involved in the conception, the pent-up irritated mind recoiling on its present consciousness will criticise it, worry over it, and never cease in its attempts to discover some new mode of formulation which may give it escape from the irrationality of its actual ideas.

Now mental ease and freedom may be obtained in various ways. Nothing is more familiar than the

way in which mere custom makes us at home with ideas or circumstances which, when new, filled the mind with curiosity and the need of explanation. There is no more common sight than that of men's mental worry about things incongruous with personal desire, and their thoughtless incurious acceptance of whatever happens to harmonise with their subjective ends. The existence of evil forms a "mystery"—a "problem": there is no "problem of happiness". But, on the other hand, purely theoretic processes may produce the same mental peace which custom and congruity with our native impulses in other cases give; and we have forthwith to discover how it is that so many processes can produce the same result, and how Philosophy, by emulating or using the means of all, may attain to a conception of the world which shall be rational in the maximum degree, or be warranted in the most composite manner against the inroads of mental unrest or discontent.

II

It will be best to take up first the theoretic way. The facts of the world in their sensible diversity are always before us, but the philosophic need craves that they should be conceived in such a way as to satisfy the sentiment of rationality. The philosophic quest then is the quest of a conception. What now is a *conception*? It is a *teleological instrument*. It is a partial aspect of a thing which *for our purpose* we regard as its essen-

tial aspect, as the representative of the entire thing. In comparison with this aspect, whatever other properties and qualities the thing may have, are unimportant accidents which we may without blame ignore. But the essence, the ground of conception, varies with the end we have in view. A substance like oil has as many different essences as it has uses to different individuals. One man conceives it as a combustible, another as a lubricator, another as a food; the chemist thinks of it as a hydro-carbon; the furniture-maker as a darkener of wood; the speculator as a commodity whose market price to-day is this and to-morrow that. The soap-boiler, the physicist, the clothes-scourer severally ascribe to it other essences in relation to their needs. Ueberweg's doctrine¹ that the essential quality of a thing is the quality of most *worth*, is strictly true; but Ueberweg has failed to note that the worth is wholly relative to the temporary interests of the conceiver. And, even, when his interest is distinctly defined in his own mind, the discrimination of the quality in the object which has the closest connexion with it, is a thing which no rules can teach. The only *a priori* advice that can be given to a man embarking on life with a certain purpose is the somewhat barren counsel: Be sure that in the circumstances that meet you, you attend to the *right* ones for your purpose. To pick out the right ones is the measure of the man. "Millions," says Hartmann, "stare at the phenome-

¹ *Logic*, English tr., p. 139.

non before a *genialer Kopf* pounces on the concept.”¹ The genius is simply he to whom, when he opens his eyes upon the world, the “right” characters are the prominent ones. The fool is he who, with the same purposes as the genius, infallibly gets his attention tangled amid the accidents.

Schopenhauer expresses well this ultimate truth when he says that Intuition (by which in this passage he means the power to distinguish at a glance the essence amid the accidents) “is not only the source of all knowledge, but is knowledge κατ’ ἐξοχήν . . . is real *insight*. . . . *Wisdom*, the true view of life, the right look at things, and the judgment that hits the mark, proceed from the mode in which the man conceives the world which lies before him. . . . He who excels in this talent knows the (Platonic) ideas of the world and of life. Every case he looks at stands for countless cases; more and more he goes on to conceive of each thing in accordance with its true nature, and his acts like his judgments bear the stamp of his insight. Gradually his face too acquires the straight and piercing look, the expression of reason, and at last of wisdom. For the direct sight of essences alone can set its mark upon the face. Abstract knowledge about them has no such effect.”²

The right conception for the philosopher depends then on his interests. Now the interest which he has above other men is that of reducing the mani-

¹ *Philosophie des Unbewussten*, 2te Auflage, p. 249.

² *Welt als Wille u. Vorstellung*, II., p. 83.

fold in thought to simple form. We can no more say why the philosopher is more peculiarly sensitive to this delight, than we can explain the passion some persons have for matching colours or for arranging cards in a game of solitaire. All these passions resemble each other in one point; they are all illustrations of what may be called the æsthetic Principle of Ease. Our pleasure at finding that a chaos of facts is at bottom the expression of a single underlying fact is like the relief of the musician at resolving a confused mass of sound into melodic or harmonic order. The simplified result is handled with far less mental effort than the original data; and a philosophic conception of nature is thus in no metaphorical sense a labour-saving contrivance. The passion for parsimony, for economy of means in thought, is thus the philosophic passion *par excellence*, and any character or aspect of the world's phenomena which gathers up their diversity into simplicity will gratify that passion, and in the philosopher's mind stand for that essence of things compared with which all their other determinations may by him be overlooked.

Mere universality or extensiveness is then the one mark the philosopher's conceptions must possess. Unless they appear in an enormous number of cases they will not bring the relief which is his main theoretic need. The knowledge of things by their causes, which is often given as a definition of rational knowledge, is useless to him unless the causes converge to a minimum number whilst still pro-

ducing the maximum number of effects. The more multiple are the instances he can see to be cases of his fundamental concept, the more flowingly does his mind rove from fact to fact in the world. The phenomenal transitions are no real transitions; each item is the same old friend with a slightly altered dress. This passion for unifying things may gratify itself, as we all know, at truth's expense. Everyone has friends bent on system and everyone has observed how, when their system has once taken definite shape, they become absolutely blind and insensible to the most flagrant facts which cannot be made to fit into it. The ignoring of data is, in fact, the easiest and most popular mode of obtaining unity in one's thought.

But leaving these vulgar excesses let us glance briefly at some more dignified contemporary examples of the hypertrophy of the unifying passion.

Its ideal goal gets permanent expression in the great notion of Substance, the underlying One in which all differences are reconciled. D'Alembert's often quoted lines express the postulate in its most abstract shape: "L'univers pour qui saurait l'embrasser d'un seul point de vue ne serait, s'il est permis de le dire, qu'un fait unique et une grande vérité." Accordingly Mr. Spencer, after saying on page 158 of the first volume of his *Psychology*, that "no effort enables us to assimilate Feeling and Motion, they have nothing in common," cannot refrain on page 162 from invoking abruptly an "Unconditional Being common to the two".

The craving for Monism at any cost is the parent of the entire evolutionist movement of our day, so far as it pretends to be more than history. The Philosophy of Evolution tries to show how the world at any given time may be conceived as absolutely identical, except in appearance, with itself at all past times. What it most abhors is the admission of anything which, appearing at a given point, should be judged essentially other than what went before. Notwithstanding the *lacunæ* in Mr. Spencer's system; notwithstanding the vagueness of his terms; in spite of the sort of jugglery by which his use of the word "nascent" is made to veil the introduction of new primordial factors like consciousness, as if, like the girl in *Midshipman Easy*, he could excuse the illegitimacy of an infant, by saying it was a very little one—in spite of all this, I say, Mr. Spencer is, and is bound to be, the most popular of all philosophers, because more than any other he seeks to appease our strongest theoretic craving. To indiscriminating minds his system will be a sop; to acute ones a programme full of suggestiveness.

When Lewes asserts in one place that the nerve-process and the feeling which accompanies it are not two things but only two "aspects" of one and the same thing, whilst in other passages he seems to imply that the cognitive feeling and the outward thing cognised (which is always other than the nerve-process accompanying the cognitive act) are again one thing in two aspects (giving us thereby

as the ultimate truth One Thing in Three Aspects, very much as Trinitarian Christians affirm it to be One God in Three Persons),—the vagueness of his mode only testifies to the imperiousness of his need of unity.

The crowning feat of unification at any cost is seen in the Hegelian denial of the Principle of Contradiction. One who is willing to allow that A and not-A are one, can be checked by few farther difficulties in Philosophy.

III

But alongside of the passion for simplification, there exists a sister passion which in some minds—though they perhaps form the minority—is its rival. This is the passion for distinguishing; it is the impulse to be *acquainted* with the parts rather than to comprehend the whole. Loyalty to clearness and integrity of perception, dislike of blurred outlines, of vague identifications, are its characteristics. It loves to recognise particulars in their full completeness, and the more of these it can carry the happier it is. It is the mind of Cuvier *versus* St. Hilaire, of Hume *versus* Spinoza. It prefers any amount of incoherence, abruptness and fragmentariness (so long as the literal details of the separate facts are saved) to a fallacious unity which swamps things rather than explains them.

Clearness *versus* Simplicity is then the theoretic dilemma, and a man's philosophic attitude is de-

terminated by the balance in him of these two cravings. When John Mill insists that the ultimate laws of nature cannot possibly be less numerous than the distinguishable qualities of sensation which we possess, he speaks in the name of this æsthetic demand for clearness. When Professor Bain says¹:—"There is surely nothing to be dissatisfied with, or to complain of in the circumstance that the elements of our experience are in the last resort two and not one. . . . Instead of our being 'unfortunate' in not being able to know the essence of either matter or mind—in not comprehending their union, our misfortune would rather be to have to know anything different from what we do know,"—he is animated by a like motive. All makers of architectonic systems like that of Kant, all multipliers of original principles, all dislikers of vague monotony, whether it bear the character of Eleatic stagnancy or of Heraclitic change, obey this tendency. *Ultimate kinds* of feeling bound together in harmony by laws, which themselves are *ultimate kinds* of relation, form the theoretic resting-place of such philosophers.

The unconditional demand which this need makes of a philosophy is that its fundamental terms should be representable. Phenomena are analysable into feelings and relations. Causality is a relation between two feelings. To abstract the relation from the feelings, to unify all things by referring them to a first cause, and to leave this latter relation

¹ "On Mystery, etc." *Fortnightly Review*, Vol. IV. N.S., p. 394.

with no term of feeling before it, is to violate the fundamental habits of our thinking, to baffle the imagination, and to exasperate the minds of certain people much as everyone's eye is exasperated by a magic-lantern picture or a microscopic object out of focus. Sharpen it, we say, or for heaven's sake remove it altogether.

The matter is not at all helped when the word Substance is brought forward and the primordial causality said to obtain between this and the phenomena; for Substance *in se* cannot be directly imaged by feeling, and seems in fact but to be a peculiar form of relation between feelings—the relation of organic union between a group of them and time. Such relations, represented as non-phenomenal entities, become thus the *bête noire* and pet aversion of many thinkers. By being posited as existent they challenge our acquaintance but at the same instant defy it by being defined as noumenal. So far is this reaction against the treatment of relational terms as metempirical entities carried, that the reigning British school seems to deny their function even in their legitimate sphere, namely as phenomenal elements or “laws” cementing the mosaic of our feelings into coherent form. Time, likeness, and unlikeness are the only phenomenal relations our English empiricists can tolerate. One of the earliest and perhaps the most famous expression of the dislike to relations considered abstractedly is the well-known passage from Hume: “When we run over libraries, persuaded of these principles,

what havoc must we make! If we take in our hand any volume of divinity or school metaphysic, for instance, let us ask, Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact existence? No. Commit it then to the flames: for it can contain nothing but sophistry and illusion.”¹

Many are the variations which succeeding writers have played on this tune. As we spoke of the excesses of the unifying passion, so we may now say of the craving for clear representability that it leads often to an unwillingness to treat any abstractions whatever as if they were intelligible. Even to talk of space, time, feeling, power, &c., oppresses them with a strange sense of uncanniness. Anything to be real for them must be representable in the form of a *lump*. Its other concrete determinations may be abstracted from, but its *tangible* thinghood must remain. Minds of this order, if they can be brought to psychologise at all, abound in such phrases as “tracts” of consciousness, “areas” of emotion, “molecules” of feeling, “agglutinated portions” of thought, “gangs” of ideas, &c., &c.

Those who wish an amusing example of this style of thought should read *Le Cerveau* by the anatomist Luys, surely the very worst book ever written on the much-abused subject of mental physiology. In another work, *Psychologie réaliste*, by P. Sièrebois

¹ *Essays*, ed. Green and Grose, II., p. 135.

(Paris 1876), it is maintained that "our ideas exist in us in a molecular condition, and are subject to continual movements. . . . Their mobility is as great as that of the molecules of air or any gas." When we fail to recall a word it is because our ideas are hid in some distant corner of the brain whence they cannot come to the muscles of articulation, or else "they have lost their ordinary fluidity". . . . "These ideal molecules are material portions of the brain which differs from all other matter precisely in this property which it possesses of subdividing itself into very attenuated portions which easily take on the likeness in form and quality of all external objects." In other words, when I utter the word 'rhinoceros' an actual little microscopic rhinoceros gallops towards my mouth.

A work of considerable acuteness, far above the vulgar materialistic level, is that of Czolbe, *Grundzüge einer extensionalen Erkenntnistheorie* (1875). This author explains our ideas to be extended substances endowed with mutual penetrability. The matter of which they are composed is "elastic like india-rubber". When "concentrated" by "magnetic self-attraction" into the middle of the brain, its "intensity" is such that it becomes conscious. When the attraction ceases, the idea-substance expands and diffuses itself into infinite space and so sinks from consciousness.

Again passing over these *quasi*-pathological excesses, we come to a permanent and, for our purpose, most important fact—the fact that many minds of

the highest analytic power will tolerate in Philosophy no unifying terms but elements immanent in phenomena, and taken in their phenomenal and representable sense. Entities whose attributes are not directly given in feeling, phenomenal relations functioning as entities, are alike rejected. Spinozistic Substance, Spencerian Unknowable, are abhorred as unrepresentable things, numerically additional to the representable world. The substance of things for these clear minds can be no more than their common measure. The phenomena bear to it the same relation that the different numbers bear to unity. These contain no other matter than the repeated unit, but they may be classed as prime numbers, odd numbers, even numbers, square numbers, cube numbers, &c., just as truly and naturally as we class concrete things. The molecular motions, of which physicists hope that some day all events and properties will be seen to consist, form such an immanent unity of colossal simplifying power. The "infinitesimal event" of various modern writers, Taine for example, with its two "aspects," inner and outer, reaches still farther in the same direction. Writers of this class, if they deal with Psychology, repudiate the "soul" as a scholastic entity. The phenomenal unity of consciousness must flow from some element immutably present in each and every representation of the individual and binding the whole into one. To unearth and accurately define this phenomenal self becomes one of the fundamental tasks of Psychology.

But the greatest living insister on the principle that unity in our account of things shall not overwhelm clearness, is Charles Renouvier. His masterly exposition of the irreducible categories of thought in his *Essais de Critique générale* ought to be far better known among us than it is. The onslaughts which this eminently clear-headed writer has made and still makes in his weekly journal, the *Critique Philosophique*, on the vanity of the evolutionary principle of simplification, which supposes that you have explained away all distinctions by simply saying "they arise" instead of "they are," form the ablest criticism which the school of Evolution has received. Difference "thus displaced, transported from the *esse* to the *fieri*, is it any the less postulated? And does the *fieri* itself receive the least commencement of explanation when we suppose that everything which occurs, occurs little by little, by insensible degrees, so that, if we look at any one of these degrees, what happens does so as easily and clearly as if it did not happen at all? . . . If we want a continuous production *ex nihilo*, why not say so frankly, and abandon the idea of a 'transition without break' which explains really nothing?"¹

¹ *Critique Philosophique*, 12 Juillet, 1877, p. 383.

IV

Our first conclusion may then be this: No system of philosophy can hope to be universally accepted among men which grossly violates either of the two great æsthetic needs of our logical nature, the need of unity and the need of clearness, or entirely subordinates the one to the other. Doctrines of mere disintegration like that of Hume and his successors, will be as widely unacceptable on the one hand as doctrines of merely engulfing substantialism like those of Schopenhauer, Hartmann and Spencer on the other. Can we for our own guidance briefly sketch out here some of the conditions of most favourable compromise?

In surveying the connexions between data we are immediately struck by the fact that some are more intimate than others. Propositions which express those we call necessary truths; and with them we contrast the laxer collocations and sequences which are known as empirical, habitual or merely fortuitous. The former seem to have an *inward* reasonableness which the latter are deprived of. The link, whatever it be, which binds the two phenomena together, seems to extend from the heart of one into the heart of the next, and to be an essential reason why the facts should always and indefeasibly be as we now know them. "Within the pale we stand." As Lotze says¹: "The intellect is not satisfied with merely associated representations. In its constant

¹ *Microcosmus*, 2d ed. I., p. 261.

critical activity thought seeks to refer each representation to the rational ground which conditions the alliance of what is associated and proves that what is grouped *belongs* together. So it separates from each other those impressions which merely coalesce without inward connexions, and it renews (while corroborating them) the bonds of those which, by the inward kinship of their content, have a right to permanent companionship."

On the other hand many writers seem to deny the existence of any such inward kinship or rational bond between things. Hume says: "All our distinct perceptions are distinct existences and the mind never perceives any real connexion among distinct existences."¹

Hume's followers are less bold in their utterances than their master, but throughout all recent British Nominalism we find the tendency to enthrone mere juxtaposition as lord of all and to make of the Universe what has well been styled a Nulliverse. "For my part," says Professor Huxley, "I utterly repudiate and anathematise the intruder [Necessity]. Fact I know; and Law I know; but what is this Necessity, save an empty shadow of the mind's own throwing?"

And similarly J. S. Mill writes: "What is called explaining one law by another is but substituting one mystery for another, and does nothing to render the course of nature less mysterious. We can no more assign a *why* for the more extensive laws than

¹ *Treatise on Human Nature*, ed. T. H. Green, I., p. 559.

for the partial ones. The explanation may substitute a mystery which has become familiar and has grown to seem not mysterious for one which is still strange. And this is the meaning of explanation in common parlance. . . . The laws thus explained or resolved are said to be *accounted for*; but the expression is incorrect if taken to mean anything more than what has been stated.”¹

And yet the very pertinacity with which such writers remind us that our explanations are in a strict sense of the word no explanations at all; that our causes never unfold the essential nature of their effects; that we never seize the inward reason why attributes cluster as they do to form things, seems to prove that they possess in their minds some ideal or pattern of what a genuine explanation would be like in case they should meet it. How could they brand our current explanations as spurious, if they had no positive notion whatever of the real thing?

Now have we the real thing? And yet may they be partly right in their denials? Surely both; and I think that the shares of truth may be easily assigned. Our “laws” *are* to a great extent but facts of larger growth, and yet things *are* inwardly and necessarily connected notwithstanding. The entire process of philosophic simplification of the chaos of sense consists of two acts, Identification and Association. Both are principles of union and therefore of theoretic rationality; but the rationality between things associated is outward and custom-bred. Only

¹ *Logic*, 8th Edition, I., p. 549.

when things are identified do we pass inwardly and necessarily from one to the other.

The first step towards unifying the chaos is to classify its items. "Every concrete thing," says Professor Bain, "falls into as many classes as it has attributes."¹ When we pick out a certain attribute to conceive it by, we literally and strictly identify it *in that respect* with the other concretes of the class having that attribute for its essence, concretes which the attribute recalls. When we conceive of sugar as a white thing it is *pro tanto* identical with snow; as a sweet thing it is the same as liquorice; *qua* hydro-carbon, as starch. The attribute picked out may be *per se* most uninteresting and familiar, but if things superficially very diverse can be found to possess it buried within them and so be assimilated with each other, "the mind feels a peculiar and genuine satisfaction. . . . The intellect, oppressed with the variety and multiplicity of facts, is joyfully relieved by the simplification and the unity of a great principle."²

Who does not feel the charm of thinking that the moon and the apple are, as far as their relation to earth goes, identical? of knowing respiration and combustion to be one? of understanding that the balloon rises by the same law whereby the stone sinks? of feeling that the warmth in one's palm when one rubs one's sleeve is identical with the motion which the friction checks? of recognising the difference between beast and fish to be only a

¹ *Ment. and Mor. Science*, p. 107.

² Bain, *Logic*, II., p. 120.

higher degree of that between human father and son? of believing our strength when we climb or chop to be no other than the strength of the sun's rays which made the oats grow out of which we got our morning meal?

We shall presently see how the attribute performing this unifying function, becomes associated with some other attribute to form what is called a general law. But at present we must note that many sciences remain in this first and simplest classificatory stage. A classificatory science is merely one the fundamental concepts of which have few associations or none with other concepts. When I say a man, a lizard, and a frog are one in being vertebrates, the identification, delightful as it is in itself, leads me hardly any farther. "The idea that all the parts of a flower are modified leaves, reveals a connecting law, which surprises us into acquiescence. But now try and define the leaf, determine its essential characteristics, so as to include all the forms that we have named. You will find yourself in a difficulty, for all distinctive marks vanish, and you have nothing left, except that a leaf in this wider sense of the term is a lateral appendage of the axis of a plant. Try then to express the proposition 'the parts of a flower are modified leaves' in the language of scientific definition, and it reads, 'the parts of the flower are lateral appendages of the axis'."¹ Truly a bald result! Yet a dozen years ago there hardly lived a naturalist who was not

¹ Helmholtz, *Popular Scientific Lectures*, p. 47.

thrilled with rapture at identifications in "philosophic" anatomy and botany exactly on a par with this. Nothing could more clearly show that the gratification of the sentiment of rationality depends hardly at all on the worth of the attribute which strings things together but almost exclusively on the mere fact of their being strung at all. Theological implications were the utmost which the attributes of archetypal zoölogy carried with them, but the wretched poverty of these proves how little they had to do with the enthusiasm engendered by archetypal identifications. Take Agassiz's conception of class-characters, order-characters, &c., as "thoughts of God." What meagre thoughts! Take Owen's archetype of the vertebrate skeleton as revealing the artistic temperament of the Creator. It is a grotesque figure with neither beauty nor ethical suggestiveness, fitted rather to discredit than honour the Divine Mind. In short the conceptions led no farther than the identification pure and simple. The transformation which Darwin has effected in the classificatory sciences is simply this—that in his theory the class-essence is not a unifying attribute pure and simple, but an attribute with wide associations. When a frog, a man and a lizard are recognised as one, not simply in having the same back-bone, &c., but in being all offspring of one parent, our thought instead of coming to a standstill, is immediately confronted with further problems and, we hope, solutions. Who were that parent's ancestors and cousins? Why was he chosen

out of all to found such an enormous line? Why did he himself perish in the struggle to survive? etc.

Association of class-attributes, *inter se*, is thus the next great step in the mind's simplifying industry. By it Empirical Laws are founded and sciences, from classificatory, become explanatory. Without it we should be in the position of a judge who could only decide that the cases in his court belonged each to a certain class, but who should be inhibited from passing sentence, or attaching to the class-name any further notion of duty, liability, or penalty. This *coupling* of the class-concept with certain determinate *consequences* associated therewithal, is what is practically important in the laws of nature as in those of society.

When, for example, we have identified prisms, bowls of water, lenses and strata of air as distorting media, the next step is to learn that all distorting media refract light rays towards the perpendicular. Such additional determination makes a law. But this law itself may be as inscrutable as the concrete fact we started from. The entrance of a ray and its swerving towards the perpendicular, may be simply *associated* properties, with, for aught we see, no inwardly necessary bond, coupled together as empirically as the colour of a man's eyes with the shape of his nose.

But such an empirical law may have its terms again classified. The essence of the medium may be to retard the light-wave's speed. The essence (in an obliquely-striking wave) of deflexion towards

the perpendicular may be earlier retardation of that part of the wave-front which enters first, so that the remaining portion swings round it before getting in. Medium and bending towards perpendicular thus coalesce into the one identical fact of retardation. This being granted gives an inward explanation of all above it. But retardation itself remains an empirical coupling of medium and light-movement until we have classified both under a single concept. The explanation reached by the insight that two phenomena are at bottom one and the same phenomenon, is rational in the ideal and ultimate sense of the word. The ultimate identification of the subject and predicate of a mathematical theorem, an identification which we can always reach in our reasonings, is the source of the inward necessity of mathematical demonstration. We see that the top and bottom of a parallelogram must be equal as soon as we have unearthed in the parallelogram the attribute that it consists of two equal, juxtaposed triangles of which its top and bottom form homologous sides—that is, as soon as we have seen that top and bottom have an identical essence, their length, as being such sides, and that their position is an accident. This criterion of identity is that which we all unconsciously use when we discriminate between brute fact and explained fact. There is no other test.

In the contemporary striving of physicists to interpret every event as a case of motion concealed or visible, we have an adumbration of the way in which

a common essence may make the sensible heterogeneity of things inwardly rational. The cause is one motion, the effect the same motion transferred to other molecules; in other words, physics aims at the same kind of rationality as mathematics. In the second volume of Lewes's *Problems* we find this anti-Humean view that the effect is the "procession" of the cause, or that they are one thing in two aspects brought prominently forward.¹

And why, on the other hand, do all our contemporary physical philosophers so vie with each other in the zeal with which they reiterate that in reality nerve-processes and brain-tremors "explain" nothing of our feelings? Why does "the chasm between the two classes of phenomena still remain intellectually impassable"?² Simply because, in the words of Spencer which we quoted a few pages back, feeling and motion have nothing whatever in common, no identical essence by which we can conceive both, and so, as Tyndall says, "pass by a process of reasoning from one to the other." The "double-aspect" school postulate the blank form of "One and the Same Fact," appeal to the image of the circle which is both convex and concave, and think that they have by this symbolic identification made the matter seem more rational.

¹ This view is in growing favour with thinkers fed from empirical sources. See Wundt's *Physikalische Axiome* and the important article by A. Riehl, "Causalität und Identität," in *Vierteljahrssch. f. wiss. Philos.* Bd. I., p. 265. The Humean view is ably urged by Chauncey Wright, *Philosophical Discussions*, N.Y., 1877, p. 406.

² Tyndall, *Fragments of Science*, 2d ed., p. 121.

Thus then the connexions of things become strictly rational only when, by successive substitutions of essences for things, and higher for lower essences, we succeed in reaching a point of view from which we can view the things as one. A and B are concretes; *a* and *b* are partial attributes with which for the present case we conceive them to be respectively identical (classify them) and which are coupled by a general law. M is a further attribute which rationally explains the general law as soon as we perceive it to form the essence of both *a* and *b*, as soon as we identify them with each other through it. The softening of asphalt pavements in August is explained first by the empirical law that heat, which is the essence of August, produces melting, which is the essence of the pavement's change, and secondly this law is inwardly rationalised by the conception of both heat and melting being at the bottom one and the same fact, namely, increased molecular mobility.

Proximate and ultimate explanations are then essentially the same thing. Classification involves all that is inward in any explanation, and a perfected rationalisation of things means only a *completed* classification of them. Every one feels that all explanation whatever, even by reference to the most proximate empirical law, does involve something of the essence of inward rationalisation. How else can we understand such words as these from Professor Huxley? "The fact that it is impossible to comprehend how it is that a physical state gives

rise to a mental state, no more lessens the value of our [empirical] explanation of the latter case, than the fact that it is utterly impossible to comprehend how motion is communicated from one body to another weakens the force of the explanation of the motion of one billiard-ball by showing that another has hit it.”¹

To return now to the philosophic problem. It is evident that our idea of the universe cannot assume an inwardly rational shape until each separate phenomenon is conceived as fundamentally identical with every other. But the important fact to notice is that in the steps by which this end is reached the really rationalising, pregnant moments are the successive steps of conception, the moments of picking out essences. The association of these essences into laws, the empirical coupling, is done by nature for us and is hardly worthy to be called an intellectual act, and on the other hand the coalescence-into-one of all items in which the same essence is discerned, in other words the perception that an essence whether ultimate, simple and universal, or proximate and specific, is identical with itself wherever found, is a barren truism. The living question always is, *Where is it found?* To stand before a phenomenon and say *what* it is; in other words to pick out from it the embedded character (or characters) also embedded in the maximum number of *other* phenomena, and so identify it with them—here lie the stress and strain, here the test of

¹ “Modern Symposium,” *XIXth Century*, Vol. I., 1877.

the philosopher. So we revert to what we said far back: the genius can do no more than this; in Butler's words:

"He knows *what's what*, and that's as high
As metaphysic wit can fly."¹

¹ This doctrine is perfectly congruous with the conclusion that identities are the only propositions necessary *a priori*, though of course it does not necessarily lead to that conclusion, since there may be in things elements which are not simple but bilateral or synthetic, like straightness and shortness in a line, convexity and concavity in a curve. Should the empiricists succeed in their attempt to resolve such Siamese-twin elements into habitual juxtapositions, the Principle of Identity would become the only *a priori* truth, and the philosophic problem like all our ordinary problems would become a question as to facts: *What* are these facts which we perceive to exist? Are there any existing facts corresponding to this or that conceived class? Lewes, in the interesting discussion on necessary and contingent truth in the Prolegomena to his *History* and in Chapter XIII. of his first *Problem*, seems at first sight to take up an opposite position, in that he maintains our commonly so-called contingent truths to be really necessary. But his treatment of the question most beautifully confirms the doctrine I have advanced in the text. If the proposition "A is B" is ever true, he says it is so necessarily. But he proves the necessity by showing that what we mean by A is its essential attribute *x*, and what we mean by B is again *x*. Only *in so far* as A and B are identical is the proposition true. But he admits that a fact sensibly just like A may lack *x*, and a fact sensibly unlike B may have it. In either case the proposition, to be true, must change. The contingency which he banishes from propositions, he thus houses in their terms; making as I do the act of conception, subsumption, classification, intuition, naming, or whatever else one may prefer to call it, the pivot on which thought turns. Before this act there is infinite indeterminateness—A and B may be anything. After the act there is the absolute certainty of truism—all *x*'s are the same. In the act—is A, *x*? is B, *x*? or not?—we have the sphere of truth and error, of living experience, in short, of Fact. As Lewes himself says: "The only necessity is that a thing is what it is; the only contingency is that our proposition may not state what the thing is" (*Problems*, Vol. I., p. 395).

V

We have now to ask ourselves how far this identification may be legitimately carried and what, when perfected, its real worth is. But before passing to these further questions we had best secure our ground by defending our fundamental notion itself from nominalistic attacks. The reigning British school has always denied that the same attribute is identical with itself in different individuals. I started above with the assumption that when we look at a subject with a certain purpose, regard it from a certain point of view, some one attribute becomes its essence and identifies it, *pro hac vice*, with a class. To this James Mill replies: "But what is meant by a mode of regarding things? This is mysterious; and is as mysteriously explained, when it is said to be the taking into view the particulars in which individuals agree. For what is there, which it is possible for the mind to take into view, in that in which individuals agree? Every colour is an individual colour, every size is an individual size, every shape is an individual shape. But things have no individual colour in common, no individual shape in common; no individual size in common; that is to say, they have neither shape, colour, nor size in common. What, then, is it which they have in common, which the mind can take into view? Those who affirmed that it was something, could by no means tell. They substituted words for things; using vague and mystical phrases,

which, when examined, meant nothing;”¹ the truth being according to this heroic author, that the only thing that can be possessed in common is a name. Black in the coat and black in the shoe agree only in that both are named black—the fact that on this view the *name* is never the same when used twice being quite overlooked. But the blood of the giants has grown weak in these days, and the nominalistic utterances of our contemporaries are like sweet-bells jangled, sadly out of tune. If they begin with a clear nominalistic note, they are sure to end with a grating rattle which sounds very like *universalia in re*, if not *ante rem*. In M. Taine,² who may fairly be included in the British School, they are almost *ante rem*. This *bruit de cloche fêlée*, as the doctors say, is pathognomonic of the condition of Ockham’s entire modern progeny.

But still we may find expressions like this: “When I say that the sight of any object gives me the *same* sensation or emotion to-day that it did yesterday, or the *same* which it gives to some other

¹ *Analysis*, Vol. I., p. 249.

² How can M. Taine fail to have perceived that the entire doctrine of “Substitution” so clearly set forth in the nominalistic beginning of his brilliant book is utterly senseless except on the supposition of realistic principles like those which he so admirably expounds at its close? How *can* the image be a useful substitute for the sensation, the tendency for the image, the name for the tendency, unless sensation, image, tendency and name be *identical* in some respect, in respect namely of function, of the relations they enter into? Were this realistic basis laid at the outset of Taine’s *De l’Intelligence*, it would be one of the most consistent instead of one of the most self-contradictory works of our day.

person, this is evidently an incorrect application of the word *same*; for the feeling which I had yesterday is gone never to return. . . . Great confusion of ideas is often produced, and many fallacies engendered, in otherwise enlightened understandings, by not being sufficiently alive to the fact (in itself not always to be avoided), that they use the same name to express ideas so different as those of identity and undistinguishable resemblance.”¹

What are the exact facts? Take the sensation I got from a cloud yesterday and from the snow to-day. The white of the snow and that of the cloud differ in place, time and associates; they agree in quality, and we may say in origin, being in all probability both produced by the activity of the same brain tract. Nevertheless, John Mill denies our right to call the quality the same. He says that *it* essentially differs in every different occasion of its appearance, and that no two phenomena of which it forms part are really identical even as far as *it* goes. Is it not obvious that to maintain this view he must abandon the phenomenal plane altogether? Phenomenally considered, the white *per se* is identical with itself wherever found in snow or in cloud, to-day or to-morrow. If any nominalist deny the identity I ask him to point out the difference. *Ex hypothesi* the qualities are sensibly indistinguishable, and the only difference he can indicate is that of time and place; but these are not differences in

¹ J. S. Mill, *Logic*, 8th Ed., I., p. 77.

the quality. If our quality be not the same with itself, what meaning has the word "same"? Our adversary though silenced may still grudge assent, but if he analyse carefully the grounds of this reluctance he will, I think, find that it proceeds from a difficulty in believing that the *cause* of the quality can be just the same at different times. In other words he abandons altogether the platform of the sensible phenomenon and ascends into the empyrean, postulating some inner noumenal principle of *quality + time + place + concomitants*. The entire group being never twice alike, of course this ground, or being *in se*, of the quality must each time be distinct and, so to speak, personal. This transcendental view is frankly avowed by Mr. Spencer in his *Psychology*, II., p. 63 (the passage is too complex to quote); but all nominalists must start from it, if they think clearly at all.¹

We, who are phenomenists, may leave all metaphysical entities which have the power of producing whiteness to their fate, and content ourselves with the irreversible *datum* of perception that the whiteness after it is manifested is the same, be it here or be it there. Of all abstractions such entities

¹ I fear that even after this some persons will remain unconvinced, but then it seems to me the matter has become a dispute about words. If my supposed adversary, when he says that different times and places prevent a quality which appears in them from ever being twice the same, will admit that they do not make it in any conceivable way *different*, I will willingly abandon the words "same" and "identical" to his fury; though I confess it becomes rather inconvenient to have no single positive word left by which to indicate complete absence of difference.

are the emptiest, being ontological hypostatisations of the mere susceptibility of being distinguished, whilst this susceptibility has its real, nameable, phenomenal ground all the while, in the time, place, and relations affected by the attribute considered.

The truly wise man will take the phenomenon in its entirety and permanently sacrifice no one aspect to another. Time, place, and relations differ, he will freely say; but let him just as freely admit that the quality is identical with itself through all these differences. Then if, *to satisfy the philosophical interest*, it becomes needful to conceive this identical part as the essence of the several entire phenomena, he will gladly call them one; whilst if some other interest be paramount, the points of difference will become essential and the identity an accident. Realism is eternal and invincible in this phenomenal sense.

We have thus vindicated against all assailants our title to consider the world as a matter susceptible of rational formulation in the deepest, most inward sense, and not as a disintegrated sand-heap; and we are consequently at liberty to ask: (1) Whether the mutual identification of its items meet with any necessary limit; and (2) What, supposing the operation completed, its real worth and import amount to.

VI

In the first place, when we have rationally explained the connexion of the items A and B by iden-

tifying both with their common attribute x , it is obvious that we have really explained only so much of these items as is x . To explain the connexion of choke-damp and suffocation by the lack of oxygen is to leave untouched all the other peculiarities both of choke-damp and of suffocation, such as convulsions and agony on the one hand, density and explosibility on the other. In a word, so far as A and B contain l, m, n and o, p, q , respectively, in addition to x , they are not explained by x . Each additional particularity makes its distinct appeal to our rational craving. A single explanation of a fact only explains it from a single point of view.¹ The entire fact is not accounted for until each and all of its characters have been identified with their likes elsewhere. To apply this now to universal formulas we see that the explanation of the world by molecular movements explains it only so far as it actually is such movements. To invoke the "Unknowable" explains only so much as is unknowable; "Love" only so much as is love; "Thought," so much as is thought; "Strife," so much as is strife. All data whose actual phenomenal quality cannot

¹ In the number of the *Journal of Speculative Philosophy* for April, 1879, Prof. John Watson most admirably asserts and expresses the truth which constitutes the back-bone of this article, namely that every manner of conceiving a fact is relative to some interest, and that there are no absolutely essential attributes—every attribute having the right to call itself essential in turn, and the truth consisting of nothing less than all of them together. I avow myself unable to comprehend as yet this author's Hegelian point of view, but his pages 164 to 172 are a most welcome corroboration of what I have striven to advance in the text.

be identified with the attribute invoked as Universal Principle, remain outside as ultimate, independent *kinds* or *natures*, associated by empirical laws with the fundamental attribute but devoid of truly rational kinship with it. If A and B are to be *thoroughly* rationalized together, *l, m, n*, and *o, p, q*, must each and all turn out to be so many cases of *x* in disguise. This kind of wholesale identification is being now attempted by physicists when they conceive of all the ancient, separate Forces as so many determinations of one and the same essence, molecular mass, position and velocity.

Suppose for a moment that this idea were carried out for the physical world,—the subjective sensations produced by the different molecular energies, colour, sound, taste, etc., etc., the relations of likeness and contrast, of time and position, of ease and effort, the emotions of pain and delight, in short, all the mutually irreducible categories of mental life, would still remain over. Certain writers strive in turn to reduce all these to a common measure, the primordial unit of feeling, or infinitesimal mental event which builds them up as bricks build houses. But this case is wholly different from the last. The physical molecule is conceived not only as having a being *in se* apart from representation, but as being essentially of representable kind. With magnified perceptions we should actually see it. The mental molecule, on the other hand, has by its very definition no existence except in being felt, and yet by the same definition

never is felt. It is neither a fact in consciousness nor a fact out of consciousness, and falls to the ground as a transcendental absurdity. Nothing could be more inconclusive than the empirical arguments for the existence of this noumenal feeling which Taine and Spencer draw from the sense of hearing.

But let us waive for an instant all this and suppose our feelings reduced to one. We should then have two primordial natures, the molecule of matter and the molecule of mind, coupled by an empirical law. Phenomenally incommensurable, the attempt to reduce them to unity by calling them two "aspects" is vain so long as it is not pointed out who is there *adspicere*; and the *Machtspruch* that they are expressions of one underlying Reality has no rationalising function so long as that reality is confessed unknowable. Nevertheless the absolute necessity of an identical material substratum for the different species of feeling on the one hand, and the *genera* feeling and motion on the other, if we are to have any evolutionary *explanation* of things, will lead to ever renewed attempts at an atomistic hylozoism. Already Clifford and Taine, Spencer, Fechner, Zöllner, G. S. Hall, and more besides, have given themselves up to this ideal.

But again let us waive this criticism and admit that even the chasm between feeling and motion may be rationally bridged by the conception of the bilateral atom of being. Let us grant that this atom by successive compoundings with its fellows

builds up the universe; is it not still clear that each item in the universe would still be explained only as to its general *quality* and not as to its other particular determinations? The particulars depend on the exact number of primordial atoms existing at the outset and their exact distances from each other. The "universal formula" of Laplace which Du Bois-Reymond has made such striking use of in his lecture *Ueber die Grenzen des Naturerkennens*, cannot possibly get along with fewer than this almost infinite number of data. Their homogeneity does not abate their infinity—each is a separate empirical fact.

And when we now retract our provisional admissions, and deny that feelings incommensurable *inter se* and with motion can be possibly unified, we see at once that the reduction of the phenomenal Chaos to rational form must stop at a certain point. It is a limited process,—bounded by the number of elementary attributes which cannot be mutually identified, the specific *qualia* of representation, on the one hand, and, on the other, by the number of entities (atoms or monads or what not) with their complete mathematical determinations, requisite for deducing the fulness of the concrete world. All these irreducible data form a system, no longer phenomenally rational, *inter se*, but bound together by what are for us empirical laws. We merely find the system existing as a matter of fact, and write it down. In short, a plurality of categories and an immense number of primordial entities, determined

according to these categories, is the minimum of philosophic baggage, the only possible compromise between the need of clearness and the need of unity. All simplification, beyond this point, is reached either by throwing away the particular concrete determinations of the fact to be explained, or else it is illusory simplification. In the latter case it is made by invoking some sham term, some pseudo-principle, and conglomerating it and the data into one. The principle may be an immanent element but no true universal: Sensation, Thought, Will are principles of this kind; or it may be a transcendent entity like Matter, Spirit, Substance, the Unknowable, the Unconscious, &c.¹ Such attempts as these latter do but postulate unification, not effect; and if taken avowedly to represent a mere claim, may be allowed to stand. But if offered as actual explanations, though they may serve as a sop to the rabble, they can but nauseate those whose philosophic appetite is genuine and entire. If we choose the former mode of simplification and are willing to abstract from the particulars of time, place and combination in the concrete world, we may simplify our elements very much by neglecting the numbers and collocations of our primordial elements and attending to their qualitative categories alone. The system formed by these will then really rationalise the universe so far as its qualities go. Nothing can

¹ The idea of "God" in its popular function is open to neither of these objections, being conceived as a phenomenon standing in causal relation to other phenomena. As such, however, it has no unifying function of a properly *explanatory* kind.

happen in it incommensurable with these data, and practically this abstract treatment of the world as quality is all that philosophers aim at. They are satisfied when they can see it to be a place in which none but these qualities appear, and in which the same quality appears not only once but identically repeats itself. They are willing to ignore, or leave to special sciences the knowledge of what times, places and concomitants the recurring quality is likely to affect. The *Essais de Critique générale* of Renouvier form, to my mind, by far the ablest answer to the philosophic need thus understood, clearness and unity being there carried each to the farthest point compatible with the other's existence.

VII

And now comes the question as to the worth of such an achievement. How much better off is the philosopher when he has got his system than he was before it? As a mere phenomenal system it stands between two fires. On the one hand the unbridled craver of unity scorns it, as being incompletely rational, still to a great extent an empirical sandheap; whilst on the other the practical man despises its empty and abstract barrenness. All it says is that the elements of the world are such and such and that each is identical with itself wherever found; but the question: Where is it found? (which is for the practical man the all-important question about each element) he is left to answer by his own

wit. Which, of all the essences, shall here and now be held the essence of this concrete thing, the fundamental philosophy never attempts to decide. We seem thus led to the conclusion that a system of categories is, on the one hand, the only possible philosophy, but is, on the other, a most miserable and inadequate substitute for the fulness of the truth. It is a monstrous abridgment of things which like all abridgments is got by the absolute loss and casting out of real matter. This is why so few human beings truly care for Philosophy. The particular determinations which she ignores are the real matter exciting other æsthetic and practical needs, quite as potent and authoritative as hers. What does the moral enthusiast care for philosophical ethics? Why does the *Æsthetik* of every German philosopher appear to the artist like the abomination of desolation? What these men need is a particular counsel, and no barren, universal truism.

“Grau, theurer Freund, ist alle Theorie
Und grün des Lebens goldner Baum.”

The entire man, who feels all needs by turns, will take nothing as an equivalent for Life but the fulness of living itself. Since the essences of things are as a matter of fact spread out and disseminated through the whole extent of time and space, it is in their spread-outness and alternation that he will enjoy them. When weary of the concrete clash and dust and pettiness, he will refresh himself by an occasional bath in the eternal spring, or fortify himself by a daily look at the immutable Natures.

But he will only be a visitor, not a dweller in the region; he will never carry the philosophic yoke upon his shoulders, and when tired of the gray monotony of her problems and insipid spaciousness of her results, will always escape gleefully into the teeming and dramatic richness of the concrete world.

So our study turns back here to its beginning. We started by calling every concept a teleological instrument (*supra*, p. 86). No concept can be a valid substitute for a concrete reality except with reference to a particular interest in the conceiver. The interest of theoretic rationality, the relief of identification, is but one of a thousand human purposes. When others rear their heads it must pack up its little bundle and retire till its turn recurs. The exaggerated dignity and value that philosophers have claimed for their solutions is thus greatly reduced. The only virtue their theoretic conception need have is simplicity, and a simple conception is an equivalent for the world only so far as the world is simple; the world meanwhile, whatever simplicity it may harbour, being also a mightily complex affair. Enough simplicity remains, however, and enough urgency in our craving to reach it, to make the theoretic function one of the most invincible and authoritative of human impulses. All ages have their intellectual populace. That of our own day prides itself particularly on its love of Science and Facts and its contempt for all metaphysics. Just weaned from the Sunday-

school nurture of its early years, with the taste of the catechism still in its mouth, it is perhaps not surprising that its palate should lack discrimination and fail to recognise how much of ontology is contained in the "Nature," "Force" and "Necessary Law," how much mysticism in the "Awe," "Progress" and "Loyalty to Truth," or whatever the other phrases may be with which it sweetens its rather meagre fare of fragmentary physiology and physics. But its own inconsistency should teach it that the eradication of music, painting and poetry, games of chance and skill, manly sports and all other æsthetic energies from human life, would be an easy task compared with that suppression of Metaphysics which it aspires to accomplish. Metaphysics of some sort there must be. The only alternative is between the good Metaphysics of clear-headed Philosophy and the trashy Metaphysics of vulgar Positivism. Metaphysics, the quest of the last clear elements of things, is but another name for thought which seeks thorough self-consistency; and so long as men must think at all, some will be found willing to forsake all else to follow that ideal.

VIII

Suppose then the goal attained. Suppose we have at last a Metaphysics in which clearness and unity join friendly hands. Whether it be over a system of interlocked elements, or over a substance, or over such a simple fact as "phenomenon" or "rep-

resentation," need not trouble us now. For the discussion which follows we will call the result the metaphysical Datum and leave its composite or simple nature uncertain. Whichever it be, and however limited as we have seen be the sphere of its utility, it satisfies, if no other need, at least the need of rationality. But now I ask: Can that which is the ground of rationality in all else be itself properly called rational? It would seem at first sight that in the sense of the word we have hitherto alone considered, it might. One is tempted at any rate to say that, since the craving for rationality in a theoretic or logical sense consists in the identification of one thing with all other outstanding things, a unique datum which left nothing else outstanding would leave no play for further rational demand, and might thus be said to quench that demand or to be rational *in se*. No *otherness* being left to annoy the minds we should sit down at peace.

In other words, just as the theoretic tranquillity of the boor results from his spinning no further considerations about his chaotic universe which may prevent him from going about his practical affairs; so any brute datum whatever (provided it were simple and clear) ought to banish mystery from the Universe of the philosopher and confer perfect theoretic peace, inasmuch as there would then be for him absolutely no further considerations to spin.

This in fact is what some persons think. Professor Bain says: "A difficulty is solved, a mystery unriddled, when it can be shown to resemble some-

thing else; to be an example of a fact already known. Mystery is isolation, exception, or it may be apparent contradiction: the resolution of the mystery is found in assimilation, identity, fraternity. When all things are assimilated, so far as assimilation can go, so far as likeness holds, there is an end to explanation; there is an end to what the mind can do, or can intelligently desire. . . . The path of science as exhibited in modern ages, is towards generality, wider and wider, until we reach the highest, the widest laws of every department of things; there explanation is finished, mystery ends, perfect vision is gained."

But unfortunately this first answer will not hold. Whether for good or evil, it is an empirical fact that the mind is so wedded to the process of seeing an *other* beside every item of its experience, that when the notion of an absolute datum which is all is presented to it, it goes through its usual procedure and remains *pointing* at the void beyond, as if in that lay further matter for contemplation. In short, it spins for itself the further positive consideration of a Nonentity enveloping the Being of its datum; and as that leads to no issue on the further side, back recoils the thought in a circle towards its datum again. But there is no logical identity, no natural bridge between nonentity and this particular datum, and the thought stands oscillating to and fro, wondering "Why was there anything but nonentity? Why just this universal datum and not another? Why anything at all?"

and finds no end, in wandering mazes lost. Indeed, Professor Bain's words are so untrue that in reflecting men it is just when the attempt to fuse the manifold into a single totality has been most successful, when the conception of the universe as a *fait unique* (in D'Alembert's words) is nearest its perfection, that the craving for further explanation, the ontological *θαρμύζειν* arises in its extremest pungency.

As Schopenhauer says, "The uneasiness which keeps the never-resting clock of metaphysics in motion, is the consciousness that the non-existence of this world is just as possible as its existence".¹

The notion of Nonentity may thus be called the parent of the philosophic craving in its subtlest and profoundest sense. Absolute existence is absolute mystery. Although *selbstständig*, it is not *selbstverständlich*; for its relations with the Nothing remain unmediated to our understanding. One philosopher only, so far as I know, has pretended to throw a logical bridge over this chasm. Hegel, by trying to show that Nonentity and Being as actually determined are linked together by a series of successive identities, binds the whole of possible thought into an adamantine unity with no conceivable outlying notion to disturb the free rotary circulation of the mind within its bounds. Since such unchecked motion constitutes the feeling of rationality, he must be held, if he has succeeded, to have eternally and absolutely quenched all its logical demands.

¹ *Welt als Wille &c.*, 3 Auflage, I., p. 189.

But for those who, like most of us, deem Hegel's heroic effort to have failed, nought remains but to confess that when all has been unified to its supreme degree (Professor Bain to the contrary notwithstanding), the notions of a Nonentity, or of a possible Other than the actual, may still haunt our imagination and prey upon the ultimate data of our system. The bottom of Being is left logically opaque to us, a *datum* in the strict sense of the word, something which we simply come upon and find, and about which (if we wish to act) we should pause and wonder as little as possible. In this confession lies the lasting truth of Empiricism, and in it Empiricism and imaginative Faith join hands. The logical attitude of both is identical, they both say there is a *plus ultra* beyond all we know, a womb of unimagined other possibility. They only differ in their sentimental temper: Empiricism says, "Into the *plus ultra* you have no right to carry your anthropomorphic affirmations"; Faith says, "You have no right to extend to it your denials". The mere ontologic emotion of wonder, of mystery, has in some minds such a tinge of the rapture of sublimity, that for this æsthetic reason alone, it will be difficult for any philosophic system completely to exorcise it.

In truth, the philosopher's logical tranquillity is after all in essence no other than the boor's. Their difference regards only the point at which each refuses to let further considerations upset the absoluteness of the data he assumes. The boor does

so immediately, and is therefore liable at any moment to the ravages of many kinds of confusion and doubt. The philosopher does not do so till unity has been reached, and is therefore warranted against the inroads of *those* considerations—but only practically, not essentially, secure from the blighting breath of the *ultimate* “Why?” Positivism takes a middle ground, and with a certain consciousness of the beyond, abruptly refuses by an inhibitory action of the will to think any further, stamps the ground and says, “Physics, I espouse thee! for better or worse, be thou my absolute!”

The Absolute is what has not yet been transcended, criticised or made relative. So far from being something quintessential and unattainable as is so often pretended, it is practically the most familiar thing in life. Every thought is absolute to us at the moment of conceiving it or acting upon it. It only becomes relative in the light of further reflection. This may make it flicker and grow pale—the notion of nonentity may blow in from the infinite and extinguish the theoretic rationality of a universal datum. As regards this latter, absoluteness and rationality are in fact convertible terms. And the chief effort of the rationalising philosopher must be to gain an absoluteness for his datum which shall be *stable* in the maximum degree, or as far as possible removed from exposure to those further considerations by which we saw that the vulgar *Weltanschauung* may so promptly be upset. I shall henceforward call the further considerations which may

supervene and make relative or derationalise a mass of thought, the *reductive* of that thought. The reductive of absolute being is thus nonentity, or the notion of an *aliter possibile* which it involves. The reductive of an absolute physics is the thought that all material facts are representations in a mind. The reductive of absolute time, space, causality, atoms, &c., are the so-called antinomies which arise as soon as we think fully out the thoughts we have begun. The reductive of absolute knowledge is the constant potentiality of doubt, the notion that the next thought may always correct the present one—resulting in the notion that a noumenal world is there mocking the one we think we know. Whatever we think, some reductive seems in strict theoretic legitimacy always imminently hovering over our thought ready to blight it. Doubtless dismissed at the front door re-enters in the rear and spoils the rationality of the simple datum we flattered ourselves we had attained. Theoretically the task of the philosopher, if he cannot reconcile the datum with the reductive by the way of identification *à la* Hegel, is to exorcise the reductive so that the datum may hold up its head again and know no fear. Professor Bain would no doubt say that nonentity was a pseud-idea not derived from experience and therefore meaningless, and so exorcise that reductive.¹ The antinomies may be exorcised by the

¹The author of *A Candid Examination of Theism* (Trübner, 1878) exercises Nonentity by the notion of the all-excluding infinitude of Existence,—whether reasonably or not I refrain

distinction between potentiality and actuality.¹ The ordinary half educated materialist comforts himself against idealists by the notion that, after all, thought is such an obscure mystical form of existence that it is almost as bad as no existence at all, and need not be seriously taken into account by a sensible man.

If nothing else could be conceived than thoughts or fancies, these would be credited with the maximum of reality. Their reductive is the belief in an objective reality of which they are but copies. When this belief takes the form of the affirmation of a noumenal world contrasted with all possible thought, and therefore playing no other part than that of reductive pure and simple,—to discover the formula of exorcism becomes, and has been recognized ever since Kant to be, one of the principal tasks of philosophy rationally understood.

The reductive used by nominalists to discredit the self-identity of the same attribute in different phenomena is the notion of a still higher degree of identity. We easily exorcise this reductive by challenging them to show what the higher degree of sameness can possibly contain which is not already in the lower.

The notion of Nonentity is not only a reductive; it can assume upon occasion an exorcising function.

from deciding. The last chapter of this work (published a year after the present text was written) is on "the final Mystery of Things," and expresses in striking language much that I have said.

¹ See Renouvier: *Premier Essai*.

If, for example, a man's ordinary mundane consciousness feels staggered at the improbability of an immaterial thinking-principle being the source of all things, Nonentity comes in and says, "Contrasted with me (that is, considered simply as *existent*) one principle is as probable as another". If the same mundane consciousness recoils at the notion of providence towards individuals or individual immortality as involving, the one too infinite a subdivision of the divine attention, the other a too infinite accumulation of population in the heavens, Nonentity says, "As compared with me all quantities are one: the wonder is all there when God has found it worth His while to guard or save a single soul".

But if the philosopher fails to find a satisfactory formula of exorcism for his datum, the only thing he can do is to "blink" the reductive at a certain point, assume the Given as his necessary ultimate, and proceed to a life whether of contemplation or of action based on that. There is no doubt this half wilful act of arrest, this acting on an opaque necessity, is accompanied by a certain pleasure. See the reverence of Carlyle for brute fact: "There is an infinite significance in Fact." "Necessity," says a German philosopher,¹ and he means not rational but simply given necessity, "is the last and highest point that we can reach in a rational conception of the world. . . . It is not only the interest of ultimate and definitive knowledge, but also

¹ Dühring: *Cursus der Philosophie*, Leipzig, 1875, p. 35.

that of the feelings, to find a last repose and an ideal equilibrium, in an uttermost datum which can simply not be other than it is."

Such is the attitude of ordinary men in their theism, God's fiat being in physics and morals such an uttermost datum. Such also is the attitude of all hard-minded analysts and *Verstandesmenschen*. Renouvier and Hodgson, the two foremost contemporary philosophers, promptly say that of experience as a whole no account can be given, but do not seek to soften the abruptness of the confession or reconcile us with our impotence.

Such mediating attempts may be made by more mystical minds. The peace of rationality may be sought through ecstasy when logic fails. To religious persons of every shade of doctrine moments come when the world as it is seems so divinely orderly, and the acceptance of it by the heart so rapturously complete, that intellectual questions vanish, nay the intellect itself is hushed to sleep—as Wordsworth says, "Thought is not, in enjoyment it expires". Ontological emotion so fills the soul that ontological speculation can no longer overlap it and put her girdle of interrogation-marks around existence. Even the least religious of men must have felt with our national ontologic poet, Walt Whitman, when loafing on the grass on some transparent summer morning, that "Swiftly arose and spread around him the peace and knowledge that pass all the argument of the earth". At such moments of energetic living we feel as if there were

something diseased and contemptible, yea vile, in theoretic grubbing and brooding. To feel "I *am* the truth" is to abolish the opposition between knowing and being.

Since the heart can thus wall out the ultimate irrationality which the head ascertains, the erection of its procedure into a systematised method would be a philosophic achievement of first-rate importance. As used by mystics hitherto it has lacked universality, being available for few persons and at few times, and even in these being apt to be followed by fits of "reaction" and "dryness"; but it may nevertheless be the forerunner of what will ultimately prove a true method. If all men could permanently say with Jacobi, "In my heart there is light," though they should for ever fail to give an articulate account of it, existence would really be rationalised.¹

But if men should ever all agree that the mystical

¹ A curious recent contribution to the construction of a universal mystical method is contained in the *Anæsthetic Revelation* by Benj. P. Blood (Amsterdam, N.Y., 1874). The author, who is a writer abounding in verbal felicities, thinks we may all grasp the secret of Being if we only intoxicate ourselves often enough with laughing-gas. "There is in the instant of recall from the anæsthetic stupor a moment in which the genius of being is revealed. . . . Patients try to speak of it but invariably fail in a lost mood of introspection. . . . But most will accept this as the central point of the illumination that sanity is not the basic quality of intelligence, . . . but that only in sanity is formal or contrasting thought, while the naked life is realised outside of sanity altogether. It is the instant contrast of this tasteless water of souls with formal thought as we *come to* that leaves the patient in an astonishment that the awful mystery of life is at last but a homely and common

method is a subterfuge without logical pertinency, a plaster, but no cure, that the Hegelian method is fallacious, that the idea of Nonentity can therefore neither be exorcised nor identified, Empiricism will be the ultimate philosophy. Existence will be a brute Fact to which as a whole the emotion of ontologic wonder shall rightfully cleave, but remain eternally unsatisfied. This wonderfulness or mysteriousness will then be an essential attribute of the nature of things, and the exhibition and emphasizing of it will always continue to be an ingredient in the philosophic industry of the race. Every generation will produce its *Job*, its *Hamlet*, its *Faust* or its *Sartor Resartus*.

With this we seem to have exhausted all the possibilities of purely theoretic rationality. But we saw at the outset that when subjectively considered rationality can only be defined as perfectly unimpeded mental function. Impediments which arise in the purely theoretic sphere might perhaps be avoided if the stream of mental action should leave

thing. . . . To minds of sanguine imagination there will be a sadness in the tenor of the mystery, as if the key-note of the universe were low—for no poetry, no emotion known to the normal sanity of man, can furnish a hint of its primæval prestige, and its all-but appalling solemnity; but for such as have felt sadly the instability of temporal things there is a comfort of serenity and ancient peace; while for the resolved and imperious spirit there are majesty and supremacy unspeakable." The logical characteristic of this state is said to be "an apodal sufficiency—to which sufficiency a wonder or fear of why it is sufficient cannot pertain and could be attributed only as an impossible disease or lack. . . . The disease of Metaphysics vanishes in the fading of the question and not in the coming of an answer."

that sphere betimes and pass into the practical. The structural unit of mind is in these days, deemed to be a triad, beginning with a sensible impression, ending with a motion, and having a feeling of greater or less length in the middle. Perhaps the whole difficulty of attaining theoretic rationality is due to the fact that the very quest violates the nature of our intelligence, and that a passage of the mental function into the third stage before the second has come to an end in the *cul de sac* of its contemplation, would revive the energy of motion and keep alive the sense of ease and freedom which is its psychic counterpart. We must therefore inquire what constitutes the feeling of rationality in its *practical* aspect; but that must be done at another time and in another place.

NOTE.—This article is the first chapter of a psychological work on the motives which lead men to philosophise. It deals with the purely theoretic or logical impulse. Other chapters treat of practical and emotional motives and in the conclusion an attempt is made to use the motives as tests of the soundness of different philosophies.

XI

CLIFFORD'S "LECTURES AND ESSAYS"¹

[1879]

It is impossible to read these volumes without taking an even greater interest in the human character they reveal than in the matters of which they treat. The author was cut down last March at the age of thirty-three. Many who have read hastily and at long intervals the essays here gathered together may have caught the impression of a genius too iconoclastic to be sympathetic, too fond of paradoxical statement to be wise, too eager for battle to be fair; but the massive effect of all the essays taken together and combined with the personal account of Clifford in the introduction strongly modifies this feeling. We see a man profuse of gifts of body and mind, of "boundless human interests and sympathies," so intensely social that "personal enmity was to him a thing impossible"; of a genius in mathematics so original that we have heard an

[¹ Review of *Lectures and Essays*, and *Seeing and Thinking*, by W. K. Clifford, London and New York, 1879. Reprinted from *Nation*, 1879, 29, 312-313. Clifford's views on "The Ethics of Belief" most perfectly embodied that vigorous positivism to which James opposed his "Will-to-Believe" doctrine. See references to Clifford in *Will to Believe* (1897) *passim*. Ed.]

authority than whom none could be more competent say that he might have rivalled the fame of Newton had he lived; but, on the other hand, endowed with that sense for the color and human expression of things which poets have and mathematicians too often lack, and which irradiates every page he writes with humor and fancy; of insatiable curiosity, but as eager to give all he gained as to receive it; possessed of such reckless animal spirits that we find him now hanging by his toes on the crossbars of a church-steeple weather-cock, now performing the almost incredible feat of writing his articles on the "Unseen Universe" and on Virchow's address each in a single night—we see all this, and we feel that, as Mr. Pollock says, his printed work must be a very slender representative of all he was to those who knew him, and that the incommunicable and indescribable thing called genius, *das Dämonische*, when it exists in a man as it did in him, transcends all his specific performances, and, "lightening the air his friends breathe," may very well justify them in making claims which to the distant reader sound exorbitant. ✓

But even the distant reader must allow that Clifford's mental personality belonged to the highest possible *type*, to say no more. The union of the mathematician with the poet, fervor with measure, passion with correctness, this surely is the ideal. And if in these modern days we are to look for any prophet or saviour who shall influence our feelings towards the universe as the founders and re-

newers of past religions have influenced the minds of our fathers, that prophet, if he ever come, must, like Clifford, be no mere sentimental worshipper of science, but an expert in her ways. And he must have what Clifford had in so extraordinary a degree—that lavishly generous confidence in the worthiness of average human nature to be told all truth, the lack of which in Goethe made him an inspiration to the few but a cold riddle to the many.

But why, with all of Clifford's powers, does the result appear so small? Why do these lectures seem to the reader almost funny in the inadequacy with which they shadow forth anything fit to form a "creed" for modern life? Why, indeed, to put the case more broadly, would an almost impossible cumulation of faculties in a single man—Clifford's scientific faith and skill, a poetic craft equal to his poetic feeling, a faculty for public affairs which he never possessed, a genius for familiar oratory, an expansive communicativeness, and a humanity greater than his—why would all these aptitudes together certainly fail *now* to give their possessor that altogether incalculable sort of power over the mind of his generation which the prophets of the past have held? The answer to these questions is short enough. Our modern mind is nothing if not critical—the craving for consistency has entered into its soul, and nothing will deeply move it but a synthesis of things which is radically reasoned out. No array of separate gifts, with this synthesis still unachieved, will make a prophet now. Ever some

vital factor of our mental life will rebel and refuse to be dragged the same way with the rest. The miraculous achievement, the achievement upon which we are all waiting for our faculties to burst into movement like mill-wheels at the touch of a torrent, must be a metaphysical achievement, the greatest of all time—the demonstration, namely, that all our different motives, rightly interpreted, pull one way. Now our Science tells our Faith that she is shameful, and our Hopes that they are dupes; our Reverence for truth leads to conclusions that make all reverence a falsehood; our new Good, survival of our tribe, is the one thing certain to perish with our planet; our Freedom annuls our opportunities for lofty deeds; our Equality with our brethren quenches all tendency to be proud of their brotherhood; our Art, instead of intimating divine secrets, becomes an intellectual sensuality, revealing no secrets but those of our nervous systems; our craving for personal recognition at the heart of things is flatly contradicted by our persuasion that we none of us possess any independent personality at all; in short, if we wish to keep in action, we have no resource but to clutch some one thing out of the chaos to serve as our hobby, and trust to our native blindness and mere animal spirits to make us indifferent to the loss of all the rest. Can the synthesis and reconciliation come? It would be as rash to despair of it as to swear to it in advance. But when it does come, whatever its specific character may be, it will necessarily have to be of the theoretic order,

a result of deeper philosophic analysis and discrimination than has yet been made. He who makes it will indeed be a leader of his time; for then, in our author's words, will there be a "universe fresh born, a new heaven, a new earth, a new elysium open to our eager feet." Then, indeed, will *la vérité* be *toute pour tous*, in the phrase which the editors have placed as an epigraph on the title-page of these lectures. Then we can all re-echo with Clifford:

"If a thing is true, let us all believe it, rich and poor, men, women, and children. If a thing is untrue, let us all disbelieve it, rich and poor, men, women, and children. Truth is a thing to be shouted from the house-tops, not to be whispered over rose-water after dinner, when the ladies are gone away. . . ."

But what sort of a figure does Clifford's own philosophy make when treated in this fashion? Surely there never was an intenser illustration than is spread out in these pages of the chaotic state of our contemporary thinking, or a creed on the whole less fit to be proclaimed to the people as the matured and clarified result of scientific thought. There are, of course, exquisitely simple and vivid statements of particular physical theories. It is hard to imagine better reading to inflame a boy with thirst for physics than the lecture on "Atoms," and the articles entitled "The Unseen Universe" and "The First and Last Catastrophe." The one on "Boundaries" in the smaller volume is marvellously clear; and the chapters on the "Philosophy of the Pure Sciences" in the larger form as luminous an in-

troductio to mathematical philosophy as was ever written. Image after image of perfect felicity pursue each other through a style of which the only fault is too great ease and too many Saxon words for our degenerate ears. But in the fundamental ideas what mere subjective capriciousness! A scepticism which fears to call the axioms of geometry true, but which takes no umbrage at the self-contradictions of continuity and infinite division in space and time; a scrupulousness which speaks with all the unction of the theological vocabulary of the "guilt" and "sin" of believing even the truth before it has been scientifically demonstrated, but which fears not to lay down as dogmas, to be believed by all, such pure conceptions of the possible as the existence of primordial atoms of "mind-stuff" which are the true things *in se*, the impotence of feeling to influence action, and the rigorous fatality of human acts. Then as to Ethics: Clifford's great discovery is that what is objectively *good*, as distinguished from what is merely subjectively pleasant, is what conduces to the survival of the tribe. Loyalty to truth and all other virtues draw their nobility from being means to this effect. And the symbolic figure of the tribe is invoked as a substitute for superhuman deities, "a grander and nobler figure" than theirs, the figure of "Him who made all gods and shall unmake them":

"A presence in which one's own poor personality is shrivelled into nothingness, . . . which in moments of utter sincerity, when a man has bared his own soul be-

fore the immensities and the eternities, arises within him and says, as plainly as words can say, 'I am with thee, and I am greater than thou.' Many names of gods, of many shapes, have men given to this presence; seeking by names and pictures to know more clearly and to remember more continually the guide and the helper of men. No such comradeship with the great Companion shall have anything but reverence from me. . . . From the dim dawn of history, and from the inmost depth of every soul, the face of our father Man looks out upon us with the fire of eternal youth in his eyes, and says: 'Before Jehovah was, I am!'"

Surely splendid rhetoric; but observe the circle in the logic: "We must show piety to our race because our race is worthy" means, simply stated, that we must help it to survive because it *can* survive. But if it can survive, it will anyhow, and needs none of our help. Whilst, if it needs our help, it can't survive *per se*, and lacking, therefore, those attributes which we learn to call objectively good, can have no claim on our sympathy. In any case we may turn our backs upon it. It is beside the mark to say, "As a matter of fact we can't turn our backs; instinct forbids." Other instincts *bid*; and the whole use of open-eyed philosophy is to teach us how we ought to decide when our blind instincts clash. Professor Clifford's fine organ-music, like the bands and torches of our political campaigns, must be meant for our nerves rather than for our reason. The entire modern deification of survival *per se*, survival returning into itself, survival naked and abstract, with the denial of any substantive ex-

cellence in *what* survives, except the capacity for more survival still, is surely the strangest intellectual stopping-place ever proposed by one man to another.

Take, again, Clifford's notion that high action means *free* action. Seating himself firmly on this high horse, he immediately proceeds with the utmost fury to chop off its legs. For he first defines free action as action from within, and then describes action from within as that whose immediate antecedents are molecular, and not the massive motions of distant bodies. Think of firing the popular heart for virtue by promulgating, as the only true and scientifically warranted moral law, the formula: "So act that all thy deeds have molecular, not massive, antecedents"!

Clifford's great metaphysical theory of units of mind-stuff forming things in themselves, and appearing to each other as molecules of matter, so far from clearing up our ideas makes confusion worse confounded for the present. It would really require a fourth or a fifth dimension of space to make an intelligible diagram of the relations between the thing, the thought of the thing, and the brain process subserving the thought, which this theory necessitates. But, as the author himself says, "the question is one in which it is peculiarly difficult to make out precisely what another man means, and even what one means one's self." Only we think a clearer grasp of this theory might have dispossessed from Clifford's mind that other theory, that

our feelings are powerless to influence our deeds. The theory says that the atoms of mind-stuff, when they fortuitously coalesce in certain ways, form a consciousness, and in other ways do not. Now, noting that the conscious combinations tend the more to survive as their consciousness is more developed, what is more natural than to conclude that the consciousness as such aids them by its presence, and has a real utility, making self-preservation the end for which it actively *works*, by reinforcing all actions and feelings which lead thereto, and checking all the rest? But this conclusion would oblige us to ascribe to it just that causal efficacy which Clifford denies.

Far be it from our thought to cast a stigma on any of these beliefs. The beliefs which have moved the world have always been directed upon some material content, and have been quite indifferent to logic. When the true prophet arises the right will be sifted from the wrong in Clifford's doctrines, and in those of all of us. Till then we should all be left free to mix our mental porridge as we please. What we complain of is that Clifford should have been willing, with his ideas still in their *Halbheit* and unshapeliness, to use the conjuring spell of the name of Science, and to harp on Reverence for Truth as means whereby to force them on the minds of simple public listeners, and so still more unsettle what is already too perplexed. Splintered ends, broken threads, broken lights, and, at last, broken hearts and broken life! So ends this bright romance!

But louder and more joyously than any of us would
its generous hero have sung :

“Wo immer müde Fechter
Sinken im muthigen Strauss,
Es kommen neue Geschlechter
Und kämpfen es ehrlich aus.”

XII

SPENCER'S "DATA OF ETHICS"¹

[1879]

THE facts of evolution have crowded upon the thinking world so fast within the last few years that their philosophy has fared rather hard. Chaotic cohorts of outlandish associates, the polyp's tentacles, the throat of the pitcher-plant, the nest of the bower-bird, the illuminated hind-quarters of the baboon, and the manners and customs of the Dyaks and Andamanese, have swept like a deluge into the decent gardens in which, with her disciples, refined Philosophy was wont to pace, and have left but little of their human and academic scenery erect. Many of the previous occupants, though broken-hearted at the desecration, have submitted, in a sort of pessimistic despair, to the barbarian invaders. Others, temporarily routed, are uncertain what to do. The victors meanwhile, intoxicated with success, assume, for the most part, that Philosophy herself is dead, or that, if she still has vitality enough left to continue propounding any of her silly conundrums, she will be shamed to silence, as now one, now another, of the conquering ragged regiment

[¹ Selections from a review of Spencer's *Data of Ethics*, 1879, printed in *Nation*, 1879, 29, 178-179. Ed.]

stands forth to face her down. We are the truth and the whole truth, they cry. Emotion, in short, has paralyzed reflection on both sides, as it always does in sudden revolutions. But when the newcomers grow accustomed to their situation, and the original possessors get better acquainted with their strange bedfellows, things will settle down on very much the old basis.

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Whereas to all other revolutionary moralists the *status belli* has received a new consecration from the new ideas; whereas in Germany especially the "struggle for existence" has been made the baptismal formula for the most cynical assertions of brute egoism; with Mr. Spencer the same theories have bred an almost Quakerish humanitarianism and regard for peace. Frequently in these pages does his indignation at the ruling powers of Britain burst forth, for their policy of conquest over lower races. Might, in his eyes, would hardly seem to be right, even when evolution is carried on by its means. And this brings us to the only criticism we care to make. We can never on evolutionist principles altogether bar out personal bias, or the subjective method, from the construction of the ethical standard of right, however fatalistic we may be. For if *what is right* means *what succeeds*, however fatally doomed to succeed that thing may be, it yet succeeds through the determinate acts of determinate individuals; and until it has been revealed what

shall succeed, we are all free to "go in" for our preferences and try to make them right by making them victorious. Now, it may be strictly true that, as Mr. Spencer says, no preference of ours possibly *can* succeed in the long run, unless, with its other contents, it be also a preference for peace, justice, and sympathy. But we still are free to decide *when* to settle down on the equitable and peaceful basis. A postponement of fifty years may wipe the Sioux and Zulus out of the game, and with them the type of character which they represent. Evolutionists must not forget that we all have five fingers merely because the first vertebrate above the fishes *happened* to have that number. He owed his prodigious success in founding a line of descent to some entirely other quality—we know not which as yet—but the inessential five fingers were taken in tow and preserved to the present day. So of minor moral points; we have to decide which of them the peace and sympathy shall take in tow and carry on to triumph. What kind of fellows shall we be willing to be peaceful with, and whose sympathy shall we enjoy? An unlettered workingman of the writer's acquaintance once made the profound remark: "There's very little difference betwixt one man and another, but what little there is is *very* important." Shall we settle down to peaceful competition already now with the Chinese? shall our messmates in the millennial equilibrium be of the fat-minded Esquimaux type? or shall we put up with some generations more of *status belli* in order to get a good

congenial working majority of artists, metaphysicians, wits, and yearners after the ineffable with whom we may live contented? According to evolution each human type and exemplar of character has small beginnings like everything else. The "best" is that which has the biggest endings. Mine may have these if I get ahead and violently crush yours out *in time*; yours, if I let the precious occasion slip and you outgrow and suppress me. For the conditions which once produced me, just as I am, may never recur again.

Mr. Spencer has forgotten to consider this inevitable field of warring antipathies, in which each must just fight doggedly and hope the event may prove him right. Or probably he has not so much forgotten as contemned it in his vast dream of universal fatalism.

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XIII

THE FEELING OF EFFORT¹

[1880]

La locomotion animale n'a nul rapport direct avec ce qu'on appelle volonté. . . . L'effort, le *nisus*, ne doit pas être fixé dans le rapport de la volition avec l'acte propre du mobile matériel. . . . L'effort, dans l'acception rationnelle de ce mot, est le rapport de la représentation avec elle-même. RENOUVIER.

I PROPOSE in the following pages to offer a scheme of the physiology and psychology of volition, more completely worked out and satisfactory than any I have yet met with. The matter is a little intricate, and I shall have to ask the reader to bear patiently a good deal of detail for the sake of the importance of the result.

That we *have* a feeling of effort there can be no doubt. Popular language has sufficiently consecrated the fact by the institution of the word effort, and its synonyms exertion, striving, straining. The difference between a simply passive sensation, and

[¹ Reprinted from the *Anniversary Memoirs of the Boston Society of Natural History*, Boston, 1880, pp. 32. It was summarized by the Editor of *Mind*, 1880, 5, p. 582. It constitutes the author's earliest discussions of the will, the "feeling of innervation," ideomotor action, and the psychology of free-will. Pp. 163-174 were reprinted in the *Principles of Psychology*, 1890, II, pp. 503-511. But in the main Chapter XXVI of the *Principles* is a rewriting rather than a reprinting of the present article. Ed.]

one in which the elements of volition and attention are found, has also been recorded by popular speech in the difference between such verbs as to see and to look; to hear and to listen; to smell and to scent; to feel and to touch. Effort, attention, and volition are, in fact, similar elements of Feeling differing all in the same generic manner from its receptive, or simply sensational elements; and forming the active as distinguished from the passive parts of our mental nature. This distinction is styled by Bain the most vital one within the sphere of mind; and at all times psychologists of the *a priori* school have emphasized the utter opposition between our consciousness of spontaneity or outgoing energy, and the consciousness of any mere *impression* whatever.

Fully admitting the feelings of active energy as mental facts, our question simply is *of what nervous processes are they concomitants?* As the feeling of effort is nowhere more coarsely and obviously present than in the phenomenon of muscular exertion, let us limit our inquiry first to that.

I. MUSCULAR EXERTION AN AFFERENT FEELING

Johannes Müller was, so far as I know, the first to say¹ that the nerve-process accompanying the feeling of muscular exertion is the discharge from the motor centre into the motor nerve. The supposition is a most natural and plausible one; for if afferent nerve processes are felt, each in its charac-

¹ *Physiologie*, 1840, Bd. ii, p. 500.

teristic way, why should not efferent processes be felt by equal right, and with equally characteristic qualities? Accordingly we find in writers of all nations since Müller's time, repetitions implicit or explicit, of his suggestion. But the authors who have most emphatically insisted on it, and raised it to the position of a fundamental doctrine, are Bain, Hughlings Jackson and Wundt.

Bain says: "The sensibility accompanying muscular movement coincides with the *outgoing* stream of nervous energy, and does not, as in the case of pure sensation, result from any influence passing inwards, by incarrying or sensitive nerves."¹

Jackson writes: "Sensations, in the sense of mental states, arise, I submit, during energizing of motor as well as of sensory nerve processes—with the outgoing as well as with the ingoing current."²

Wundt separates the feeling of force exerted, from the feeling of effected movement.³ And in later writings he adopts the term *Innervationsgefühl* to designate the former in relation to its supposed cause, the efferent discharge. Feelings of innervation have since then become household words in psychological literature. Two English writers only, so far as I know, Dr. Charlton Bastian and

¹ *The Senses and the Intellect*. 3d edition, p. 77.

² *Clinical and Physiological Researches on the Nervous System* (reprinted from the *Lancet*, 1873), London, J. & A. Churchill, p. xxxiv. See also this author's very original though somewhat obscure paper on "Aphasia" in *Brain* for October, 1879, p. 351.

³ *Beiträge zur Theorie der Sinneswahrnehmung*, p. 420. *Physiologische Psychologie*, p. 316.

Dr. Ferrier, have expressed skepticism as to the existence of any feelings connected with the efferent nervous discharge. But their arguments being imperfect, and in the case of Bastian rather confusedly expressed, have passed unnoticed. Lotze in Germany has also raised a skeptical voice, but has not backed his doubts by many arguments.¹ The notorious existence of the *feeling* of effort in muscular exertion; the fact that the efferent discharge there plays the principal rôle, and the plausibility of the postulate so often insisted on by Lewes that identity of structure involves identity of function, have all conspired to make us almost believe, as a matter of course, that motor cells when they discharge into motor fibres, should have their own "specific energy" of feeling, and that this should be no other than the sense of energy put forth.

In opposition to this popular view, I maintain that the feeling of *muscular* energy put forth is a complex *afferent* sensation coming from the tense muscles, the strained ligaments, squeezed joints, fixed chest, closed glottis, contracted brow, clenched jaws, etc., etc. That there is over and above this another feeling of effort involved, I do not deny; but this latter is purely moral and has nothing to do with the motor discharge. We shall study it at the end of this essay, and shall find it to be essentially identical with the effort to remember, with the effort to make a decision, or to attend to a disagreeable task.

¹ See his *Metaphysik*, 1869, p. 589. See also *Revue Philosophique*, t. iv, p. 359.

First then, let us disprove the notion that there is any feeling connected with the motor or efferent nervous discharge. We may begin by asking: Why should there be? Even accepting Lewes's postulate in the abstract, what degree of "identity" should be demanded between the afferent and efferent nerve apparatus, to insure their being both alike, "sentient"? Even to our coarse optical examination, the sensory and the motor cells are widely different. But apart from *a priori* postulates, and however strange to logic it may appear, it is a fact that the motor apparatus is absolutely insentient in an afferent direction, although we know that the fibres of the anterior root will propagate a disturbance in that direction as well as in the other. Why may not this result from a true insentiency in the motor cell, an insentiency which would accompany all action there, and characterize its normal discharges as well as the unnatural irritations made by the knife of the surgeon or the electrodes of the physiologist upon the motor nerve.

Plausibility accrues to this presumption when we call to mind this general law: that consciousness seems to desert all processes where it can no longer be of any use. The tendency of consciousness to a minimum of complication is in fact a dominating law in Psychology. The logical law of parsimony is only its best-known case. We grow unconscious of every feeling which is useless as a sign to lead us to our ends, and where one sign will suffice, others drop out, and that one remains to function alone. We

observe this in the whole history of sense perception, and in the acquisition of every art. We ignore which eye we see with, because a fixed mechanical association has been formed between our motions and each retinal image. Our motions are the ends of our seeing, our retinal images the signals to these ends. If each retinal image, whichever it be, can suggest automatically a motion in the right direction, what need for us to know whether it be in the right eye or the left? The knowledge would be superfluous complication. So in acquiring any art or voluntary function. The marksman thinks only of the exact position of the goal, the singer only of the perfect sound, the balancer only of the point in space whose oscillations he must counteract by movement. The associated mechanism has become so perfect in all these persons, that each variation in the thought of the end, is functionally correlated with the one movement fitted to bring the latter about. Whilst they were tyros, they thought of their means as well as their end; the marksman of the position of his gun or bow, or the weight of his stone, the pianist of the visible position of the note on the keyboard, the singer of his throat or breathing, the balancer of his feet on the rope, or his hand or chin under the pole. But little by little they succeeded in dropping all this supernumerary consciousness, and they became secure in their movements exactly in proportion as they did so.

Now if we analyze the nervous mechanism of vol-

untary action, we shall see that by virtue of this principle of parsimony in consciousness, the motor discharge *ought* to be devoid of sentience. The essentials of a voluntary movement are: 1, a preliminary idea of the end we wish to attain; 2, a "*fiat*"; 3, an appropriate muscular contraction; 4, the end felt as actually accomplished. In man, at any rate, it is admitted that the idea of the end and the muscular contraction were originally coupled by empirical association; that is to say, the child with his end in view, made random movements until he accidentally found one to fit. This movement awakened its own characteristic feeling which thenceforward remained with him as the idea of the movement appropriate to that particular end. If the man should acquire a million distinct ends, he must acquire a million such motor ideas and a million connections between them and the ends. But one such connection, subserved by an exclusive nerve tract used for no other purpose, will be enough for each end. The end conceived will, when these associations are formed, always awaken its own proper motor idea. As for the manner in which this idea awakens its own proper movement—the one which will convert it from an idea into an actual sensation—the simplest possible arrangement would be to let it serve *directly* (through its peculiar neural process) as a stimulus to the special motor centre, the ultimate sensible effect of whose discharge it prefigures and represents.

The ordinary theory, however, makes the matter

much more complicated. The idea of the end is supposed to awaken first a *feeling* of the proper motor innervation, and this, when adjudged right, to discharge the muscular combination.

Now what can be gained by the interposition of this second relay of feeling between the idea and the movement? Nothing on the score of economy of nerve tracts; for it takes just as many of them to associate a million ideas with a million motor feelings,¹ each specific, as to associate the same million ideas with a million insentient motor centres. And nothing on the score of precision; for the only conceivable way in which they might further precision would be by giving to a mind whose notion of the end was vague, a sort of halting stage with sharper imagery on which to collect its wits before uttering its *fiat*. But not only are the conscious discriminations between "ends" much sharper than any one pretends the shades of difference between feelings of innervation to be, but even were this not the case, it is impossible to see how a mind with its end vaguely conceived, could tell out of a lot of *Innervationsgefühle*, were they never so sharply differentiated, which one fitted that end exactly, and which did not. A sharply conceived end will on the other hand directly awaken a distinct movement as easily as it will awaken a distinct feeling of innervation. If feelings can go astray through vagueness, surely the

¹ The association between the two orders of feeling being of course brought about by a separate neural connection between the tracts supporting each.

fewer steps of feeling there are interposed, the more securely we shall act. We ought then on a *priori* grounds alone to regard the *Innervationsgefühl* as a pure encumbrance.

Let us turn now to a *posteriori* evidence.

It is a notorious fact, recognized by all writers¹ on voluntary motion, that the will seems concerned only with results and not with the muscular details by which they are executed. But when we say "results," what is it exactly that we mean? We mean, of course, the movements objectively considered, and revealing themselves (as either accomplished or in process of being accomplished) to our sensible perceptions. Our idea, notion, thought, of a movement, what we *mean* whenever we speak of the movement, is this sensible perception which we get of it when it is taking place, or has completely occurred.

What then is this sensible perception?

What does it introspectively seem to be? I unhesitatingly answer: an aggregate of *afferent* feelings, coming primarily from the contraction of muscles, the stretching of tendons, ligaments, and skin, and the rubbing and pressing of joints; and secondarily, from the eye, the ear, the skin, nose, or palate, any or all of which may be indirectly affected by the movement as it takes place in another part of the body. The only idea of a move-

¹ By no one more clearly set forth than by Hume himself in his essay on the "Idea of Necessary Connection." The best recent statement I know is by Jaccoud: *Des Paraplégies et de l'Ataxie du Mouvement*, Paris, 1864, p. 591.

ment which we *can* possess is composed of images of these, its afferent effects. By these differences alone are movements mentally distinguished from each other, and these differences are sufficient for all the discriminations we can possibly need to make when we intend one movement rather than another.

The recent writers who have been prompt to recognize the fact that volition is directed only to results, have hardly been sensible of the far-reaching consequences of this admission,—consequences which will develop themselves as our inquiry proceeds. Meanwhile one immediate conclusion follows: namely, that there are no such things as efferent feelings, or feelings of innervation. These are wholly mythological entities. Whoever says that in raising his arm he is ignorant of how many muscles he contracts, in what order of sequence, and in what degrees of intensity, expressly avows a colossal amount of unconsciousness of the processes of motor discharge. Each separate muscle at any rate cannot have its distinct feeling of innervation. Wundt,¹ who makes such enormous use of these hypothetical feelings in his psychologic construction of space, is himself led to admit that they have no differences of quality, but feel alike in all muscles, and vary only in their degrees of intensity.²

¹ Leidesdorf u. Meynert's *Vierteljsch. f. Psychiatrie*, Bd. i, Heft i, S. 36–37, 1867. *Physiologische Psychologie*, S. 316.

² Harless, in an article which in many respects forestalls what I have to say ("Der Apparat des Willens," in Fichte's *Zeitschrift f. Philos.*, Bd. 38, 1861), uses the convenient word *Effectsbild* to designate our idea of this sensory result of a movement.

They are used by the mind as guides, not of *what* movement, but of *how strong* a movement it is making, or shall make. But does not this virtually surrender their existence altogether?

For if anything be obvious to introspection it is that the degree of strength of our muscular contractions is completely revealed to us by afferent feelings coming from the muscles themselves and their insertions, from the vicinity of the joints, and from the general fixation of the larynx, chest, face, and body, in the phenomenon of effort, objectively considered. When a certain degree of energy of contraction rather than another is thought of by us, this complex aggregate of afferent feelings, forming the material of our thought, renders absolutely precise and distinctive our mental image of the exact strength of movement to be made, and the exact amount of resistance to be overcome.

Let the reader try to direct his will towards a particular movement, and then notice what *constituted* the direction of the will. Was it anything over and above the notion of the different feelings to which the movement when effected would give rise? If we abstract from these feelings, will any sign, principle, or means of orientation be left, by which the will may innervate the right muscles with the right intensity, and not go astray into the wrong ones? Strip off these images of result,¹ and so far

¹ We speak here only of the *muscular* exertion, properly so called. The difficulty often involved in making the *flat* still remains a reserved question.

from leaving us with a complete assortment of directions into which our will may launch itself, you leave our consciousness in an absolute and total vacuum. If I will to write "Peter" rather than "Paul," it is the thought of certain digital sensations, of certain alphabetic sounds, of certain appearances on the paper, and of no others, which immediately precedes the motion of my pen.

If I will to utter the word *Paul* rather than *Peter*, it is the thought of my voice falling on my ear, and of certain muscular feelings in my tongue, lips, and larynx, which guide the utterance. All these feelings are afferent, and between the thought of them, by which the act is mentally specified with all possible completeness, and the act itself, there is no room for any third order of mental phenomenon. Except, indeed, what I have called the fiat, the element of consent, or resolve that the act shall ensue. This, doubtless, to the reader's mind, as to my own, constitutes the essence of the voluntariness of the act. This fiat will be treated of in detail farther on. It may be entirely neglected here, for it is a constant coefficient, affecting all voluntary actions alike, and incapable of serving to distinguish them. No one will pretend that its quality varies according as the right or the left arm, for example, is used.

So far then, we seem free to conclude that an anticipatory image of the sensorial consequences of a movement, hard or easy, *plus the fiat* that these consequences shall become actual, ought to be able to discharge *directly* the special movement with

which in our past experiences the particular consequences were combined as effects. Furthermore, there is no introspective evidence whatever of the existence of any intermediate feelings, possessing either qualitative or quantitative differences, and accompanying the efferent discharge.¹

Is there, notwithstanding, any circumstantial evidence? At first sight, it appears as if the circumstantial evidence in favor of efferent feelings were very strong. Wundt says² that were our motor feelings of an afferent nature, "it ought to be expected that they would increase and diminish with the amount of outer or inner work actually effected in contraction. This, however, is not the case, but the strength of the motor sensation is purely proportional to the strength of the *impulse* to movement, which starts from the central organ innervating the motor nerves. This may be proved by observations made by physicians in cases of morbid alteration in the muscular effect. A patient whose arm or leg is half paralyzed, so that he can only move the limb with great effort, has a distinct feeling of this effort; the limb seems to him heavier than before, appearing as if weighted with lead; he has, therefore, a sense of more work effected than formerly, and yet the effected work is either the same or even less. Only he must, to get even this effect, exert a

¹The various degrees of difficulty with which the fiat is given form a complication of the utmost importance, reserved for discussion further on.

²*Vorlesungen über Menschen und Thierseele*, Bd. i, p. 222.

stronger innervation, a stronger motor impulse than formerly."

In complete paralysis also, patients will be conscious of putting forth the greatest exertion to move a limb which remains absolutely still upon the bed, and from which of course no afferent muscular or other feelings can come.¹

Dr. Ferrier in his *Functions of the Brain* (Am. Ed. pp. 222-224) disposes very easily of this line of argument. He says: "It is necessary, however, to exclude movements *altogether* before such an explanation [as Wundt's] can be adopted. Now, though the hemiplegic patient cannot move his paralyzed limb, though he is conscious of trying hard, yet he will be found to be making powerful muscular exer-

¹ In some instances we get an opposite result. Dr. H. Charlton Bastian (*British Medical Journal*, 1869, p. 461, note) says:

"Ask a man whose lower extremities are completely paralyzed, whether, when he ineffectually wills to move either of these limbs, he is conscious of an expenditure of energy in any degree proportionate to that which he would have experienced if his muscles had naturally responded to his volition. He will tell us rather that he has a sense only of his utter powerlessness, and that his volition is a mere mental act, carrying with it no feelings of expended energy such as he is accustomed to experience when his muscles are in powerful action, and from which action and its consequences alone, as I think, he can derive any adequate notion of resistance."

Dr. J. J. Putnam has quite recently reported to me a case of this sort of only a few months' standing. Many amputated patients who still feel their lost limbs are unable to make any conscious effort to move them. One such case informs me that he feels more able to will a distant table to move, than to exert the same volition over his acutely-felt lost leg. Others, on the contrary (*vide* Weir Mitchell's book on Gunshot Injuries to Nerves), say they can not only will, but, as far as their feeling is concerned, *execute*, movements of their ampu-

tion of some kind. Vulpian has called attention to the fact, and I have repeatedly verified it, that when a hemiplegic patient is desired to close his paralyzed fist, in his endeavors to do so he unconsciously performs this action with the sound one. It is, in fact, almost impossible to exclude such a source of complication, and unless this is taken into account very erroneous conclusions as to the cause of the sense of effort may be drawn. In the fact of muscular contraction and the concomitant centripetal impressions, even though the action is not such as is desired, the conditions of the consciousness of effort exist without our being obliged to regard it as depending on central innervation or outgoing currents.

“It is, however, easy to make an experiment of a

tated limbs. It would be extremely interesting to unravel the causes of these divergences. May it be that in recent cases with the recollection of varied movements fresh in the mind, the patient has a stock of distinct images of position on which to base his fiat; while in an inveterate case, either of paralysis with contraction, or of amputation with consciousness of the limb in an invariable position, reminiscences of other positions have through long desuetude become so incapable of revival that there is no preliminary idea of an End for the fiat to knit itself to. Such a supposition conforms well to the utterances of two amputated persons with whom I have conversed. They said it was like “willing into the void,” they “did not know how to set about it,” and so forth. The recency of Dr. Putnam’s case above mentioned seems, however, to conflict with such an explanation and I only make the suggestions in the hope that some one with better opportunities for observation than I possess, may become interested in the matter. I may add that in teaching a new and unnatural movement, the starting-point is to awaken by its passive production a distinct sense of what the movement, if effected, would feel like. This defines the direction of the exertion the pupil is to make.

simple nature which will satisfactorily account for the sense of effort, even when these unconscious contractions of the other side, such as hemiplegics make, are entirely excluded.

“If the reader will extend his right arm and hold his forefinger in the position required for pulling the trigger of a pistol, he may without actually moving his finger, but by simply making believe, experience a consciousness of energy put forth. Here, then, is a clear case of consciousness of energy without actual contraction of the muscles either of the one hand or the other, and without any perceptible bodily strain. If the reader will again perform the experiment, and pay careful attention to the condition of his respiration, he will observe that his consciousness of effort coincides with a fixation of the muscles of his chest, and that in proportion to the amount of energy he feels he is putting forth, he is keeping his glottis closed and actively contracting his respiratory muscles. Let him place his finger as before, and *continue breathing* all the time, and he will find that however much he may direct his attention to his finger, he will experience not the slightest trace of consciousness of effort until he has actually moved the finger itself, and then it is referred locally to the muscles in action. It is only when this essential and ever present respiratory factor is, as it has been, overlooked, that the consciousness of effort can with any degree of plausibility be ascribed to the outgoing current. In the contraction of the respiratory muscles there are the necessary

conditions of centripetal impressions, and these are capable of originating the general sense of effort. When these active efforts are withheld, no consciousness of effort ever arises, except in so far as it is conditioned by the local contraction of the group of muscles towards which the attention is directed, or by other muscular contractions called unconsciously into play in the attempt.

“I am unable to find a single case of consciousness of effort which is not explicable in one or other of the ways specified. In all instances the consciousness of effort is conditioned by the actual fact of muscular contraction. That it is dependent on centripetal impressions generated by the act of contraction, I have already endeavored to show. When the paths of the centripetal impressions, or the cerebral centres of the same, are destroyed, there is no vestige of a muscular sense. That the central organs for the apprehension of the impressions originating from muscular contraction, are different from those which send out the motor impulse, has already been established. But when Wundt argues that this cannot be so, because then the sensation would always keep pace with the energy of muscular contraction, he overlooks the important factor of the fixation of the respiratory muscles, which is the basis of the general sense of effort in all its varying degrees.”

To these remarks of Ferrier's I have nothing to add. Any one may verify them, and they prove conclusively that the consciousness of muscular exertion, being impossible without movement *effected*

somewhere, must be an afferent and not an efferent sensation, a consequence and not an antecedent of the movement itself. An idea of the amount of muscular exertion requisite to perform a certain movement can consequently be nothing other than an anticipatory image of the movement's sensible effects.

Driven thus from the body at large, where shall the circumstantial evidence for the feeling of innervation lodge itself? Where but in the muscles of the eye, from which last small retreat it judges itself inexpugnable. And, to say the truth, it may well be excused for its confidence; for Ferrier alone, so far as I know, has ventured to attack it there, and his attack must be deemed a very weak failure. Nevertheless, that fastness too must fall, and by the lightest of bombardments. But, before trying the bombardment, let us examine the position with a little care, laying down first a few general principles about optical vertigo, or illusory appearance of movement in objects.

We judge that an object moves under two distinct sets of circumstances:

1. When its image moves on the retina, and we know that the eye is still.

2. When its image is stationary on the retina, and we know that the eye is moving. In this case we feel that we *follow* the object.

In either of these cases a mistaken judgment about the state of the eye will produce optical vertigo.

If in case 1, we think our eye is still when it is really moving, we shall get a movement of the

retinal image which we shall judge to be due to a real outward motion of the object. This is what happens after looking at rushing water, or through the windows of a moving railroad car, or after turning on one's heel to giddiness. The eyes, without our intending to move them, go through a series of involuntary rotations, continuing those they were previously obliged to make to keep objects in view. If the objects had been whirling by to our right, our eyes when turned to stationary objects will still move slowly towards the right. The retinal image upon them will then move like that of an object passing to the left. We then try to catch it by voluntarily and rapidly rotating the eyes to the left, when the involuntary impulse again rotates the eyes to the right, continuing the apparent motion, and so the game goes on.

If in case 2, we think our eyes moving when they are in reality still, we shall judge that we are following a moving object when we are but fixating a steadfast one. Illusions of this kind occur after sudden and complete paralysis of special eye muscles, and the partizans of feelings of efferent innervation regard them as *experimenta crucis*. Helmholtz writes¹: "When the external rectus muscle of the right eye, or its nerve, is paralyzed, the eye can no longer be rotated to the right side. So long as the patient turns it only to the nasal side it makes regular movements, and he perceives correctly the position of objects in the visual field. So

¹ *Physiologische Optik*, p. 600.

soon, however, as he tries to rotate it outwardly, *i.e.*, towards the right, it ceases to obey his will, stands motionless in the middle of its course, and the objects appear flying to the right, although position of eye and retinal image are unaltered.¹

"In such a case the exertion of the will is followed neither by actual movement of the eye, nor by contraction of the muscle in question, nor even by increased tension in it. The act of will *produced absolutely no effects* beyond the nervous system, and yet we judge of the direction of the line of vision as if the will had exercised its normal effects. We believe it to have moved to the right, and since the retinal image is unchanged, we attribute to the object the same movement we have erroneously ascribed to the eye. . . . These phenomena leave no room for doubt that we only judge the direction of the line of sight by the effort of will with which we strive to change the position of our eyes. There are also certain weak feelings in our eyelids, . . . and furthermore in excessive lateral rotations we feel a fatiguing strain in the muscles. But all these feelings are too faint and vague to be of use in the perception of direction. We feel then what impulse of the will, and how strong a one, we apply to turn our eye into a given position."

Partial paralysis of the same muscle, *paresis*, as it has been called, seems to point even more con-

¹The left and sound eye is here supposed covered. If both eyes look at the same field there are double images which still more perplex the judgment. The patient, however, learns to see correctly before many days or weeks are over. W. J.

clusively to the same inference, that the will to innervate is felt independently of all its afferent results. I will quote the account given by a very recent authority,¹ of the effects of this accident:

“When the nerve going to an eye muscle, *e.g.*, the external rectus of one side, falls into a state of paresis, the first result is that the same volitional stimulus, which under normal circumstances would have perhaps rotated the eye to its extreme position outwards, now is competent to effect only a moderate outward rotation, say of 20° . If now, shutting the sound eye, the patient looks at an object situated just so far outwards from the paretic eye that this latter must turn 20° in order to see it distinctly, the patient will feel as if he had moved it not only 20° towards the side, but into its extreme lateral position, for the impulse of innervation requisite for bringing it into view is a perfectly conscious act, whilst the diminished state of contraction of the paretic muscle lies for the present out of the ken of consciousness. The test proposed by von Graefe, of localization by the sense of touch, serves to render evident the error which the patient now makes. If we direct him to touch rapidly the object looked at, with the forefinger of the hand of the same side, the line through which the finger moves will not be the line of sight directed 20° outward, but will approach more nearly to the extreme possible outward line of vision.”²

¹ Alfred Graefe, in *Handbuch der gesamten Augenheilkunde*, Bd. vi, S. 18.

² *Ibid.*, p. 21.

A stone cutter with the external rectus of the left eye paralyzed, will strike his hand instead of his chisel with his hammer, until experience has taught him wisdom.

It appears as if here the judgment of direction *could* only arise from the excessive innervation of the rectus when the object is looked at. All the afferent feelings must be identical with those experienced when the eye is sound, and the judgment is correct. The eyeball is rotated just 20° in the one case as in the other, the image falls on the same part of the retina, the pressures on the eyeball and the tensions of the skin and conjunctiva are identical. There is only one feeling which *can* vary, and lead us to our mistake. That feeling must be the effort which the will makes, moderate in the one case, excessive in the other, but in both cases an efferent feeling, pure and simple.

Beautiful and clear as this reasoning seems to be, it is based on an incomplete inventory of the afferent data. The writers have all omitted to consider what is going on in the *other eye*. This is kept covered during the experiments to prevent double images, and other complications. But if its condition under these circumstances be examined, it will be found to present changes which must result in strong afferent feelings. And the taking account of these feelings demolishes in an instant all the conclusions which the authors from whom I have quoted, base upon their supposed absence. This I will now proceed to show.

Take first the case of complete paralysis and assume the right eye affected. Suppose the patient desires to rotate his gaze to an object situated in the extreme right of the field of vision. As Hering has so beautifully shown, both eyes move by a common act of innervation, and in this instance both move towards the right. But the paralyzed right eye stops short in the middle of its course, the object still appearing far to the right of its fixation point. The left sound eye, meanwhile, although covered, continues its rotation until the extreme rightward limit thereof has been reached. To an observer looking at both eyes the left will seem to squint. Of course this continued and extreme rotation produces afferent feelings of rightward motion in the eyeball, which momentarily overpower the faint feelings of central position in the diseased and uncovered eye. The patient feels by his left eyeball as if he were following an object which by his right retina he perceives he does not overtake. All the conditions of optical vertigo are here present: the image stationary on the retina, and the erroneous conviction that the eyes are moving.

The objection that a feeling in the right eyeball ought not to produce a conviction that the left eye moves, will be considered in a moment. Let us meanwhile turn to the case of simple paresis with apparent translocation of the field.

Here the right eye succeeds in fixating the object, but observation of the left eye will reveal to an

observer the fact that it squints just as violently inwards as in the former case. The direction which the finger of the patient takes in pointing to the object, is the direction of this squinting and covered left eye. As Graefe says (although he fails to seize the true import of his own observation), "It appears to have been by no means sufficiently noticed how significantly the direction of the line of sight of the secondarily deviating eye [*i.e.*, of the left] and the line of direction of the pointed finger agree."

The translocation would, in a word, be perfectly explained, could we suppose that the sensation of a certain degree of rotation in the left eyeball were able to suggest to the patient the position of an object whose image falls on the right retina alone. Can, then, a feeling in one eye be confounded with a feeling in the other?

Not only Donders and Adamük, by their vivisections, but Hering, by his exquisite optical experiments, have proved that the apparatus of innervation for both eyes is single, and that they function as one organ—a double eye, according to Hering, or what Helmholtz calls a *Cyclopenauge*. Now the retinal feelings of this double organ, singly innervated, are also to a great extent absolutely indistinguishable, namely, where they fall in corresponding points. But even where they are *numerically* distinguishable, they are indistinguishable with respect to our knowing whether they belong to the left retina or to the right. When, as

so often happens, part of a distant object is hidden from one eye by the edge of an intervening body, and seen only by the other eye, we rarely know by our spontaneous feeling that this is the case, nor when we have noticed the fact can we tell which eye is seeing and which is eclipsed. If the reader will hold two needles in front of his nose, one of them behind the other, and look at the distant one with both eyes, the near one will appear to him double. But he will be quite unable, by his mere feeling, to say to which eye either of the double images belong. If he gives an opinion, he will probably say the right image belongs to the right eye, the reverse being really the case.¹ In short, we use our retinal sensations indifferently, and only to tell us where their objects lie. It takes long practice directed specially *ad hoc*, to teach us on which retina the sensations respectively fall.

Now the different sensations which arise from the positions of the eyeballs are also used exclusively as signs of the position of objects; an object directly fixated, being localized habitually at the intersection of the two optical axes, but without any separate consciousness on our part that the position of one axis is different from another. All we are aware of is a consolidated feeling of a certain "strain" in the eyeballs, accompanied by the perception that just so far in front and so far to the right or to the left, there is an object which we see.

¹ See also W. B. Rogers, *Silliman's Journal*, 1860, for other curious examples of this incapacity.

This being the case, our patient paretic of the right external rectus, might be expected to see objects, not only transposed to the right, but also nearer because the intersection of his squinting axes is nearer, and smaller because a retinal image of fixed size awakens the judgment of an object small in proportion as it is judged near. Whether paretic patients of this kind are subject to this additional illusion remains to be discovered by examinations which ophthalmologists in large practice alone have the opportunity of making.¹ It is worth while to

¹In three recent cases examined for me by ophthalmological friends this additional delusion seemed absent, and I also found it absent in a case of paralysis of the external rectus with translocation which, by Dr. Wadsworth's kindness, I lately examined at the hospital. The "absence" spoken of was in all these cases a vacillating and uncertain judgment rather than a steadfastly positive judgment that distance and size were unaltered.

The extraordinary vacillation of our judgments of size and distance will be noticed by any one who has experimented with slightly concave, convex, or prismatic glasses. The most familiar example is that of looking at the moon through an opera-glass. It looks larger, so its details are more distinctly seen; being so distinct it looks nearer, and because it seems nearer it is also judged smaller (Auber's *secundare Urtheilstäuschung*). Many experiments may be devised by which the left eye may be made to converge by a prism whilst the right looks either at the same object or sees one of the double images of a more distant object whose other double image is cut off by a screen from the left retina. Under these circumstances we get translocations which may be similar to those in paresis but they prove nothing to our purpose, for the moment the prism is introduced before the left eye, altering its convergence, the right eye moves sympathetically, giving rise to a translation of its retinal image, which of course suggests translocation of the object. The only experiment capable of proving the theory advanced in the text would be one in which *no* shifting of the

observe, however, that the feeling of accommodation and the knowledge of the true size of the object conspire with the feeling of convergence to give the judgment of distance. And where the convergence is an altogether abnormal one, as in the parietic squint, the feeling of the left eyeball being excessive, might well simply overpower all other feelings and leave no clear impression whatever save a general one of looking far towards the right.

The only thoroughly crucial test of the explanation here proposed of the parietic translocation, would be a case in which the left eye alone looked at the object whilst the right, looking at nothing, strongly converged. Since, however, the only way of making a normal eye converge is to give it an object to look at, it would seem at first sight as if such a case could never be obtained. It has occurred to me, notwithstanding, that slight atropinization of one eye might cause such strong accommodative innervation, that the convergent muscles might sympathetically contract, and a squint tend to occur. The squint would be steadfast, and situated in the non-atropinized eye, if it were covered and the poisoned eye alone made to fixate a near object. And if under these circumstances the object thus monocularly seen were translocated out-

image on the right retina accompanied the turning inwards of the left eye. The experiment without prisms mentioned by Hering (*Lehre vom binocularen Sehen*, pp. 12-14) seems the nearest approach which we can make to this, but there both eyes fixate the same objects, and there is some translation of the image.

wardly, we should have a complete verification of the explanation I present. The innervation is wholly different from that in paresis, and the only point the two cases have in common is the covered eye rotated nasalwards. Probably it would not be easy to find the patient, or the dose of atropia just fitted for producing the squint. But one positive instance would outweigh a hundred negative ones. I have had a chance to experiment on but one person. A large needle was stuck in a horizontal board, whose edges touched the face, the needle being from eight to twelve inches in front of the right atropinized eye. The subject was told to touch with her finger the under surface of the board, just beneath the needle. The results were negative,—no well-marked squint being perceptible,—but on the third day after the atropinization, the patient regularly placed her finger from one-half to three-quarters of an inch too far to the right. Other observations ought to be made.

There seems meanwhile to be a very good negative instance by which to corroborate our arguments. If we whirl about on our heel to the right, objects will, as above-mentioned, seem to whirl about us to the left as soon as we stand still. This is due to the fact that our eyes are unwittingly making slow movements to the right, corrected at intervals by quick voluntary ones to the left. There is then in the eyes a permanent excess of rightward innervation, the reflex resultant of our giddiness. The intermittent movements to the left by which we

correct this, simply confirm and intensify the impression it gives us of a leftward whirling in the field of view: we seem to ourselves to be periodically pursuing and overtaking the objects in their leftward flight. Now if we convert this periodic voluntary action into permanent action, by holding the eyeballs still in spite of their reflex tendency to rotate (*i.e.*, by using such an excess of leftward voluntary innervation as would keep us fixating one object), we ought, if truly conscious of the degree of our voluntary innervation, to feel our eyes actually moving towards the left. And this feeling should produce in us the judgment that we are steadily following with our gaze a leftward moving field of view. As a matter of fact, however, this never happens. What does happen is that the field of view stops its motion the moment our eyes stop theirs.¹

¹The subject of optical vertigo has been best treated by Breuer in Stricker's *Medizinische Jahrbücher*, Jahrg. 1874, 1 Heft (see also 1875, 1 Heft). Hoppe's more recent work "*Die Scheinbewegungen*," I have not seen. I ought to say that Mach (*Grundlinien der Lehre von den Bewegungsempfindungen*, 1875, pp. 83-85) denies that in his case fixating a point causes the apparent movement of objects to stop. His case is certainly exceptional, but need not invalidate in the least our theory. The eye-motions in all cases are reflex results of a sensation of subjective whirling of the body due most probably to excitement of the semi-circular canals. This is not arrested in any one by fixing the eyes; and persisting in Mach with a constant field of view, may in him be sufficient to suggest the judgment that the field follows him in his flight, whilst in the average observer the further addition of a moving retinal image may be requisite for the full production of that psychic impression. All the feelings in question are rather confused and fluctuating, while the nausea which rapidly supervenes stands in the way of our becoming adepts in their observation.

Nothing could more conclusively prove the inability of mere innervation (however complex or intense) to influence our perception. Nothing could more completely vindicate the idea that *effected* movements, through the afferent sensations they give rise to, are alone what serve as premises in our motor judgments.¹

II. IDEO-MOTOR ACTION

So far then, so good. We have got rid of a very obstructive complication in relegating the feeling of muscular exertion properly so called, to that vast and well-known class of afferent feelings, none of

¹Let it not be objected that the involuntary rightward motion of the eyeballs which misled us, after standing still, into the impression that the world was moving, was "effected" and ought to have given us afferent sensations strong enough to prevent our being deluded by the image passing over the retina. No doubt we get these afferent sensations and *with sufficient practice* would rightly interpret them. But as the experiment is actually made, neither they nor the moving image on the retina (which far overpowers them in vivacity of impression) are *expected*. When we *intend* a movement of the eyes, the world being supposed at rest, we always expect both these sensations. Whenever the latter has come unexpectedly we have been in presence of a really moving object, and every moment of our lives moving objects are giving us unexpectedly this experience. Of prolonged unexpected movements of the eyes we never under normal circumstances have any experience whatever. What wonder then that the intense and familiar sensation of an unexpectedly moving retinal image should wholly overpower the feeble and almost unknown one of an unexpected and prolonged movement of the eyeballs and be interpreted as if it existed alone. I cannot doubt however that with sufficient practice we should all learn so to attend to and interpret the feelings of the moving eyeballs as to reduce the retinal experience to its proper signification.

whose other members are held by any one to be especially connected with the mysterious sentiments of effort and power, which are the subjects of our study. All muscle feelings eliminated, the question stands out pure and simple: What is the volitional effort proper? What makes it easy to raise the finger, hard to get out of bed on a cold morning, harder to keep our attention on the insipid image of a procession of sheep when troubled with insomnia, and hardest of all to say No to the temptation of any form of instinctive pleasure which has grown inveterate and habitual. In a word what is the nature of this fiat of which we have so often spoken?¹

¹The philosophic importance of clearing the ground for the question may be shown by the example of Maine de Biran. This thoroughly original writer's whole life was devoted to the task of showing that the primordial fact of conscious personality was the sentiment of volitional effort. This intimate sense is *the self* in each of us. "It becomes the self by the sole fact of the distinction which establishes itself between the subject of the effort and the term which resists by its own inertia. The ego cannot begin to know itself or to exist for itself, except in so far as it can distinguish itself as subject of an effort, from a term which resists" (*Œuvres Inédites*, Vol. I, pp. 208, 212). Maine de Biran makes this resisting term the muscle, though it is true he does not, like so many of his successors, think we have an *effere*nt sense of its resistance. Its resistance is known to us by a muscular sensation proper, the *effect* of the contraction (p. 213). We shall show in the sequel that this sensation resists our fiat or volitional effort proper in no degree *quâ* muscular, but simply *quâ* disagreeable. Any other disagreeable sensation whatever may equally well serve as the term which resists our fiat that it become real. M. de B.'s giving such a monstrous monopoly to the muscular feelings is a consequence of his not having completed the discrimination I make in the text between all afferent sensations together on the one hand, and the fiat on the other. Muscle feelings for him still occupy an altogether singular, hybrid and abnormal sort of position.

In our bed we think of the cold, and we feel the warmth and lie still, but we all the time feel that we can get up with no trouble *if we will*. The difficulty is to will. We say to our intemperate acquaintance, "You can be a new man, *if you will*." But he finds the willing impossible. One who talks nonsense under the influence of hasheesh, realizes all the time his power to end his sentences soberly and sensibly, *if he will*. But his will feels as yet no sufficient reason for exerting itself. A person lying in one of those half-trance-like states of immobility not infrequent with nervous patients, feels the *power* to move undiminished, but cannot resolve to manifest it. And cases might be multiplied indefinitely in which the fiat is not only a distinct, but a difficult and effort-requiring moment in the performance.

On the other hand cases may be multiplied indefinitely of actions performed with no distinct volitional fiat at all,—the mere presence of an intellectual image of the movement, and the absence of any conflicting image, being adequate causes of its production. As Lotze says¹: "The spectator accompanies the throwing of a billiard ball, or the

¹ *Medicinische Psychologie*, 1852, p. 293. In his admirably acute chapter on the will this author has most explicitly maintained the position that what we call muscular exertion is an afferent and not an efferent feeling: "We must affirm universally that in the muscular feeling we are not sensible of the *force* on its way to produce an effect, but only of the *sufferance* already produced in our moveable organs, the muscles, after the force has, in a manner unobservable by us, exerted upon them its causality" (p. 311). How often the battles of psychology have to be fought over again, each time with heavier armies and bigger trains, though not always with so able generals.

thrust of the swordsman with slight movements of his arm; the untaught narrator tells his story with many gesticulations; the reader while absorbed in the perusal of a battle scene feels a slight tension run through his muscular system, keeping time as it were with the actions he is reading of. These results become the more marked the more we are absorbed in thinking of the movements which suggest them; they grow fainter exactly in proportion as a complex consciousness, under the dominion of a crowd of other representations, withstands the passing over of mental contemplation into outward action. . . . We see in writing or piano-playing a great number of very complicated movements following quickly one upon the other, the instigative representations of which remained scarcely a second in consciousness, certainly not long enough to awaken any other volition than the general one of resigning oneself without reserve to the passing over of representation into action. All the actions of our daily life happen in this wise: Our standing up, walking, talking, all this never demands a distinct impulse of the will, but is adequately brought about by the pure flux of thought."

Dr. Carpenter has proposed the name *ideo-motor* for these actions without a special fiat. And in the chapter of his *Mental Physiology* bearing this title may be found a very full collection of instances.¹

¹ Professor Bain has also amply illustrated the subject in his work on the *Senses and Intellect*, 3d edition, pp. 336-343. He considers that these facts prove that the ideas of motion inhabit identical nerve tracts with the actualized motions.

It is to be noted that among the most frequent cases of this sort are those acts which result from ideas or perceptions, intercurrent as it were to the main stream of our thought, and it may be logically disconnected therewith. I am earnestly talking with a friend, when I notice a piece of string on the floor. The next instant I have picked it up, with no deliberate resolve to do so, and with no check to my conversation. Or, I am lying in my warm bed, engrossed in some revery or other, when the notion suddenly strikes me "it is getting late," and before I know it, I am up in the cold, having executed without the smallest effort of resolve, an action which, half an hour previous, with full consciousness of the *pros* and the *cons*, the warm rest and the chill, the sluggishness and the manliness, time lost and the morning's duties, I was utterly unable to decide upon.

I then lay it down as a second corner-stake in our inquiry, that *every representation of a motion awakens the actual motion which is its object, unless inhibited by some antagonistic representation simultaneously present to the mind.*

It is somewhat dangerous to base dogmatic conclusions on the experiments so far made on the cerebral cortex, nevertheless they may help to confirm conclusions already probable on other grounds. Munk's vivisectional experiments on the cortical centres seem much the most minute and elaborate which have yet been reported. Now Munk concludes from them that the so-called motor centres

of Hitzig and Ferrier, each of which, when electrically irritated, provokes a characteristic movement in some part of the body, are sensory centres,—the centres for the feelings of touch, pressure, position, and motion of the bodily parts in question. The entire zone which contains them is called by him the *Fühlsphäre* of the cerebral surface, and is made co-ordinate with the *Sehsphäre* and *Hörsphäre*.¹

Electric excitement of the forepaw centre can then only give us an image of the paw in some resultant state of flexion or extension. And the reason why motor effects occur like clock-work when this centre is irritated, would be that this image is awakened with such extraordinary vivacity by the stimulus that no other idea in the animal's mind can be strong enough to inhibit its discharging into the insentient motor centres below.

Now the reader may still shake his head and say: "But can you seriously mean that all the wonderfully exact adjustment of my action's strength to its ends, is not a matter of outgoing innervation? Here is a cannon-ball, and here a pasteboard box: instantly and accurately I lift each from the table, the

¹ Munk (Du Bois-Reymond's *Archiv für Physiologie*, 1878, pp. 177-178 and 549). It is true that Munk still believes in the *Innervationsgefühl*, only he supposes it to be a result of the activity of the lower motor centres, not coming to consciousness *in situ*, but transmitted upwards by fibres to the zone in question, and there perceived along with the passive feelings of the part involved. It is needless to say that there is not an atom of objective ground for the belief in these afferent innervation feelings—even less than for the efferent ones ordinarily assumed.

ball not refusing to rise because my innervation was too weak, the box not flying abruptly into the air because it was too strong. Could representations of the movement's different sensory effects in the two cases be so delicately foreshadowed in the mind? or being there, is it credible that they should, all unaided, so delicately graduate the stimulation of the unconscious motor centres to their work?" Even so! I reply to both queries. We have a most extremely delicate foreshadowing of the sensory effects. Why else the start of surprise that runs through us, if some one has filled the light-seeming box with sand before we try to lift it, or has substituted for the cannon-ball which we know, a painted wooden imitation? *Surprise* can only come from getting a sensation which differs from the one we expect. But the truth is that when we know the objects well, the very slightest difference from the expected weight will surprise us, or at least attract our notice. With unknown objects we begin by expecting the weight made probable by their appearance. The expectation of this sensation innervates our lift, and we "set" it rather small at first. An instant verifies whether it is too small. Our expectation rises, *i.e.*, we think in a twinkling of a setting of the chest and teeth, a bracing of the back, and a more violent feeling in the arms. Quicker than thought we have them, and with them the burden ascends into the air. Bernhardt¹ has shown in a

¹ *Archiv für Psychiatrie*, III, pp. 618-635. Bernhardt strangely enough seems to think that what his experiments disprove is

rough experimental way that our estimation of the amount of a resistance is as delicately graduated when our wills are passive, and our limbs made to contract by direct local faradization, as when we ourselves innervate them. Ferrier¹ has repeated and verified the observations. They admit of no great precision, and too much stress should not be laid upon them either way, but at the very least, they tend to show that no added delicacy would accrue to our perception from the consciousness of the efferent process, even if it existed.

III. THE INSCRUTABLE PSYCHO-PHYSIC NEXUS IS IDENTICAL IN ALL INNERVATION AND LIES OUTSIDE THE SPHERE OF THE WILL

On the ordinary theory, the movements which accompany emotion, and those which we call voluntary, are of a fundamentally different character. The emotional movements are admitted to be discharged without intermediary by the mere presence of the exciting idea. The voluntary motions are said to follow the idea only after an intermediate

the existence of afferent muscular feelings, not those of efferent innervation—apparently because he deems that the peculiar thrill of the electricity ought to overpower all other afferent feelings from the part. But it is far more natural to interpret his results the other way, even aside from the certainty yielded by other evidence that passive muscular feelings exist. This other evidence is compendiously summed up by Sachs in Reichert und Du Bois' *Archiv*, 1874, pp. 174-188.

¹ *Functions of the Brain*, p. 228.

conscious process of "innervation" has been aroused. On the present theory the only difference lies in the fact that the emotions show a peculiar congenital connection of certain forms of idea with certain very specially combined movements, largely of the "involuntary" muscles, but also of the others—as in fear, anger, etc.—such connection being non-congenital in voluntary action; and in the further fact that the discharge of idea into movement is much more readily inhibited by other casually present ideas in the case of voluntary action, and less so in the case of emotions; though here, too, inhibition takes place on a large scale.¹

That one set of ideas should compel the vascular, respiratory, and gesticulatory symptoms of shame, another those of anger, a third those of grief, a fourth those of laughter, and a fifth those of sexual excitement, is a most singular fact of our organization, which the labors of a Darwin have hardly even begun to throw light upon. Where such a prearrangement of the nerve centres exists, the way to awaken the motor symptoms is to awaken first the idea and then to dwell upon it. The thought of our enemy soon brings with it the bodily ebullition, of our loss the tears, of our blunder the blush. We even read of persons who can contract their pupils voluntarily by steadily imagining a brilliant light—that being the sensation to which the pupils normally respond.

¹ Witness the evaporation of manifestations of disgust in the presence of fear, of lust in the presence of respect, etc., etc.

"It is possible to weep at will by trying to recall that peculiar feeling in the trigeminal nerve which habitually precedes tears. Some can even succeed in sweating voluntarily, by the lively recollection of the characteristic skin sensations, and the voluntary reproduction of an indescribable sort of feeling of relaxation, which ordinarily precedes the flow of perspiration. Finally, it is well known how easily the thought of gustatory stimuli excites the activity of the salivary glands. This capacity to indirectly excite activities usually involuntary, is much more pronounced in certain diseases. Hypochondriacs know well how easily the heart-beat may be made to alter, or even cramps of single muscles, feelings of *aura*, and so forth, be brought about in this way, which no doubt in the religious epidemics of the Middle Ages, led to the imitative spread of ecstatic convulsions, from one person to another."¹ It suffices to think steadily of the feeling of yawning, to provoke the act in most persons; and in every one in certain states, to imagine vomiting is to vomit.

The great play of individual idiosyncrasy in all these matters, shows that the following or not following of action upon representation is a matter of connections among nervous centres, which connections may fluctuate widely in extent. The ordinary "voluntary" act results in this way: First, some feeling produces a movement in a reflex, or as we say, accidental way. The movement excites a

¹ Lotze, *Medicinische Psychologie*, p. 303.

sensorial tract, causing a feeling which, whenever the sensorial tract functions again, revives as an idea. Now the sensorial and motor tracts, thus associated in their actions, remain associated forever afterwards, and as the motor originally aroused the sensory, so the sensory may now arouse the motor (provided no outlying ideational tracts in connection with it prevent it from so doing). Voluntary acts *are* in fact nothing but acts whose motor centres are so constituted that they *can* be aroused by these sensorial centres, whose excitement was originally their effect. Acts, the innervation of which cannot thus run up its primal stream, are not voluntary. But the line of division runs differently in different individuals.

Now notice that in all this, whether the act do follow or not upon the representation is a matter quite immaterial so far as the *willing* of the act represented goes. I will to write, and the act follows. I will to sneeze, and it does not. I will that the distant table slide over the floor towards me; it also does not. My willing representation can no more instigate my sneezing centre, than it can instigate the table, to activity. But in both cases, it is as true and good willing as it was when I willed to write. In a word, volition is a psychic or moral fact pure and simple, and is absolutely completed when the *intention* or *consent* is there. The super-vention of motion upon its completion is a super-numerary phenomenon belonging to the department of physiology exclusively, and depending on the or-

ganic structure and condition of executive ganglia, whose functioning is quite unconscious.

In St. Vitus' dance, in locomotor ataxy, the representation of a movement and the consent to it take place normally. But the inferior executive centres are deranged, and although the ideas discharge them, they do not discharge them so as to reproduce the precise sensations which they prefigure. In aphasia the patient has an image of certain words which he wishes to utter, but when he opens his mouth, he hears himself making quite unintended sounds. This may fill him with rage and despair—which passions only show how intact his will remains.¹

Paralysis only goes a step farther. The associative mechanism is not only deranged but altogether broken through. The volition occurs, but the hand remains as still as the table. The paralytic is made aware of this by the absence of the expected change in his afferent sensations. He tries harder, *i.e.*, he

¹ In ataxy it is true that the sensations resultant from movement are usually disguised by anaesthesia. This has led to false explanations of the symptom (Leyden, *Die graue Degeneration des Rückenmarks*, 1863). But the undeniable existence of atactics without a trace of insensibility proves the trouble to be due to disorder of the associating machinery between the centres of ideation and those of discharge. These latter cases have been used by some authors in support of the *Innervationgefühl* theory (Classen: *Das Schlussverfahren des Schactes*, 1863, p. 50); the spasmodic irregular movements being interpreted as the result of an imperfect *sense* of the amount of innervation we are exerting. There is no subjective evidence whatever of such a state. The undoubtedly true theory is best expounded by Jaccoud: *Des Paraplégies et de l'Ataxie Motrice*, 1864, Part iii., Chap. ii.

mentally frames the sensation of muscular "effort" with consent that it shall occur. It does so: he frowns, he heaves his chest, he clenches his other fist, but the palsied arm lies passive.¹ It may then be that the thought of his impotence shall make his will, like a Rarey-tamed horse, forever afterwards cowed, inhibited, impossible, with respect to that particular motion.²

The special case of the limb being completely anæsthetic, as well as atactic, curiously illustrates the merely external and quasi-accidental connection between muscular motion and the thought which instigates it. We read of cases like this:

"Voluntary movements cannot be estimated the moment the patient ceases to take note of them by his eyes. Thus after having made him close his eyes, if one asks him to move one of his limbs either wholly or in part, he does it but cannot tell whether the effected movement is large or small, strong or weak, or even if it has taken place at all. And when he opens his eyes after moving his leg from right to left, for example, he declares that he had a very inexact notion of the extent of the effected movement. . . . If, having the intention of executing a certain movement, *I prevent him*, he does not

¹ A normal palsy occurs during sleep. We will all sorts of motions in our dreams, but seldom perform any of them. In nightmare we become conscious of the non-performance, and will the "effort." This seems then to occur in a restricted way, limiting itself to the occlusion of the glottis and producing the respiratory anxiety which wakes us up.

² *Vide supra*, p. 8, note 3.

perceive it, and supposes the limb to have taken the position he intended to give it.”¹ Or this:

“The patient when his eyes were closed in the middle of an unpractised movement, remained with the extremity in the position it had when the eyes closed and did not complete the movement properly. Then after some oscillations the limb gradually sank by reason of its weight (the sense of fatigue being absent). Of this the patient was not aware, and wondered when he opened his eyes, at the altered position of his limb.”²

In the normal state of man there is always a possibility that action may not occur in this simple ideo-motor way. The motor ideas may awaken other ideas which inhibit the discharge into the executive ganglia. But in the state called hypnotism we have a condition analogous to sleep in so far forth that the ideas which turn up do not awaken their habitual and most reasonable associates. Their motor effects are therefore not inhibited, and the hypnotized subject not only believes everything that is told him, however improbable, but he acts out every motor suggestion which he receives. The eminent French philosopher, Renouvier, as early as 1859, expressly assimilated these facts of hypnotism to the ordinary ideo-motor actions, and to those effects of moral vertigo and fasci-

¹Landry: “Mémoire sur la Paralyse du Sens Musculaire,” in *Gazette des Hopitaux*, 1855, p. 270.

²Takacs, “Ueber die Verspätung der Empfindungsleitung,” *Archiv für Psychiatrie*, Bd. x, Heft ii, p. 533.

nation which make us fall when we are on heights, laugh from the fear of laughing, etc., etc. His account of the psychology of volition¹ is the firmest, and in my opinion, the truest connected treatment yet given to the subject by any author with whom I am acquainted.

IV. THE WILL CONNECTS TERMS IN THE MENTAL SPHERE ONLY

We must now leave behind us the cases of extremely uncomplicated mental motivation, which we have hitherto considered, and take up others where the tendency of a particular motor idea to take effect is arrested or delayed. These are the cases where the *fiat*, the distinct decision, or the volitional effort, come in; and we find them of many degrees of complexity.

First there are cases with no effort properly so called, either of muscle or resolution: shall I put on this hat or that? Shall I draw a horse or a man on the sheet of paper which this amusement-craving child brings me? Shall I move my index finger or my little finger to show my "*liberum arbitrium in-*

¹ *Essais de Critique Générale*; 2me Essai, *Psychologie rationnelle*, pp. 237 and following. 2me Édition, 1875, Tome 1, pp. 367-408. Heidenhain, in an interesting pamphlet (*Der sogenannte thierische Magnetismus*, Leipzig, 1880), has recently propounded the opinion that in hypnotized subjects the hemispheres are thrown entirely out of gear and no *ideas* whatever awakened. This opinion is so much at variance with that of English and French observers that further corroboration is required.

differentiæ?” In the mountains, in youth, on some intoxicating autumn morning, after invigorating slumber, we feel strong enough to jump over the moon, and, casting about us for a barrier, a rock, a tree, or any object on which to measure our bodily prowess, we perform with perfect spontaneity feats which at another time might demand an almost impossible exertion of muscle and of will.

Both of these exertions are present in a vast class of actions. Exhausted with fatigue and wet and watching, the sailor on a wreck throws himself down to rest. But hardly are his limbs fairly relaxed, when the order “to the pumps!” again sounds in his ears. Shall he, can he, obey it? Is it not better just to let his aching body lie, and let the ship go down if she will? So he lies on, till, with a desperate heave of the will, at last he staggers to his legs, and to his task again.

Again, there are instances where the volitional fiat demands great effort though the muscular exertion be insignificant, *e.g.*, the getting out of bed and bathing oneself on a cold morning.

Finally, we may have the fiat in all its rigor, with no motor representation whatever involved, or one so remote as not to count directly at all in the mental motivation.

Of the former class are all resolutions to be patient rather than to act. Such a one we have to make in the dentist’s chair: The alternatives are a state of inward writhing, and mental swearing, coupled with spasmodic respiration, and all sorts of

irregularly antagonistic muscular attractions—a state of shrinking and protest in a word, on the one hand; and on the other a state of muscular relaxation and free breathing, a sort of mental welcoming of the pain, and the elated consciousness that be it never so savage, we can stand it. This is a state of *consent*, and the passage from the former state to it, not the passage the other way, is in this instance the one requiring the fiat, and characterized by the mental “click” of resolve.

As examples of the last class, take Regulus returning to Carthage, the priest who decides to break with his church, the girl who makes up her mind to live single with her ideal, rather than accept the good old bachelor who is her only suitor, the embezzler who fixes a certain day on which to make public confession, the deliberate suicide, yea the wretch who after long hesitation resolves that he will put arsenic into his wife’s cup. These pass through one moment which like a knife-edge parts all their past from all their future, but which leads to no *immediate* muscular consequences at all.

Now if we analyze this great variety of cases, we shall find that the knife-edge moment where it exists, has the same identical constitution in all. It is literally a *fiat*, a state of mind which consents, agrees, or is willing, that certain represented experiences shall continue to be, or should now for the first time become, part of Reality. The consent comes after hesitation. The hesitation came because something made us imagine another alternative.

When both alternatives are agreeable, as in the intoxication of the mountain morning, or the *liberum arbitrium indifferentiæ*, the hesitation is but momentary; for either course is better than delay, and the one which lies nearest when the sense that we are uselessly delaying becomes pungent, is the one which discharges into act—thus no mental tension has time to arise.

But in other cases both alternatives are images of mixed good and evil. Whatever is done has to be done against some inhibitory agency, whether of intrinsic unpleasantness in the doing, or of represented odiousness of the doing's fruits: the fiat has to occur against resistance. Volition then comes hand in hand with the sentiment of effort, and the proper problem of this essay lies before us.

What does the effort seem to do? To bring the decisive volition. What is this volition? The stable victory of an idea, although it may be disagreeable, the permanent suppression of an idea although it may be immediately and urgently pleasant.

What do we mean by "victory"? The survival in the mind in such form as to constitute unwavering contemplation, expectation, assent, or affirmation. What do we mean by "suppression"? Either complete oblivescence, or such presence as to evoke the steady sentiment of aversion or negation.

Volition with effort is then incidental to the conflict of ideas of what our experience may be.

Conflict involves those strange states or general attitudes of feeling, which when we speak logically or intellectually, we call affirmation and negation, but when we speak emotionally, we call assent and refusal. Psychologically of course, like every other mental modification, these attitudes are feelings *sui generis*, not to be described, but only labelled and pointed out. What they are *in se*, what their conflict is, and what its decision and resolution are, we know in every given case introspectively with an absolute clearness that nothing can make clearer. But what forms of cerebral nerve-process correspond to these mind-processes is an infinitely darker matter, and one as to which I will here make no suggestion except the simple and obvious one that they and volition with them are subserved by the ideational centres exclusively and involve no downward irradiation into lower parts. The irradiation only comes when they are completed.

In the dentist's chair, one idea is that of the manliness of enduring the pain, the other is that of its intolerable character. We assent to the manliness, saying, "let it be the reality," and behold, it becomes so, though with a mental effort exactly proportionate to the sensitiveness of our nerves. To the sailor on the wreck, one idea is that of his sore hands, and the nameless aching exhaustion of his whole frame which further pumping involves. The other, is that of a hungry sea engulfing him. He says: "rather the former!" and it becomes reality, in spite of the inhibiting influence of the comparatively luxurious

sensations of the spot in which he for the moment lies.

To the sinner in the agony of his mind, one idea is of the social shame and all the outward losses and degradations to which confession will expose him, the other is that of the rescue from the damned unending inward foulness to which concealment seems to doom him. He says to the confession, "*fiat!* with all its consequences," and sure enough, when the time comes, *fit*, but not without mental blood and sweat.

Everywhere the difficulty is the same: to keep affirming and adopting a state of mind of which disagreeableness is an integral factor. The disagreeableness need not be of the nature of pain; it may be the merely relative disagreeableness of insipidity. When the spontaneous course of thought is to exciting images, whether sanguine or lugubrious, loving or revengeful, all reasonable representations come with a deadly flatness and coldness that strikes a chill to the soul. To cling to them however, as soon as they show their faces, to consent to their presence, to affirm them, to negate all the rest, is the characteristic energy of the man whose will is strong. If on this purely mental plane his effort succeeds, the outward consequences will take care of themselves, for the representation will work unaided its motor effects. The simplest cases are the best for illustrating the point, and in the case of a man afflicted with insomnia, and to whose body sleep comes through the persistent successful diver-

sion of the mind from the train of whirling thoughts, to the monotonous contemplation of one letter after another of a verse of poetry, spelled out synchronously with the acts of respiration, we have all the elements that can anywhere be found: a struggle of ideas, a victory of one set and certain bodily effects automatically consequent thereon. *To sustain a representation, to think*, is what requires the effort, and is the true moral act. Maniacs know their thoughts to be insane, but they are too pressing to be withstood. Again and again sober notions come, but like the sober instants of a drunken man, they are so sickeningly cadaverous, or else so still and small and imperceptible, that the lunatic can't bear to look them fully in the face and say: "let these alone represent my realities." Such an extract as this will illustrate what I mean:

"A gentleman of respectable birth, excellent education, and ample fortune, engaged in one of the highest departments of trade . . . and being induced to embark in one of the plausible speculations of the day . . . was utterly ruined. Like other men he could bear a sudden overwhelming reverse better than a long succession of petty misfortunes, and the way in which he conducted himself on the occasion met with unbounded admiration from his friends. He withdrew, however, into rigid seclusion, and being no longer able to exercise the generosity and indulge the benevolent feelings which had formed the happiness of his life, made himself a substitute for them by daydreams, gradually fell

into a state of irritable despondency, from which he only gradually recovered with the loss of reason. He now fancied himself possessed of immense wealth, and gave without stint his imaginary riches. He has ever since been under gentle restraint, and leads a life not merely of happiness, but of bliss; converses rationally, reads the newspapers, where every tale of distress attracts his notice, and being furnished with an abundant supply of blank checks, he fills up one of them with a munificent sum, sends it off to the sufferer, and sits down to his dinner with a happy conviction that he has earned the right to a little indulgence in the pleasures of the table; and yet, on a serious conversation with one of his old friends, he is quite conscious of his real position, but the conviction is so exquisitely painful that *he will not let himself believe it.*"¹

Now to turn to the special case of the decision to make a muscular movement. This decision may require a volitional effort, or it may not. If I am well, and the movement is a light one (like the brushing of dust from my coat-sleeve), and suggests no consequences of an unpleasant nature, it is effortless. But if unpleasant consequences are expected, that effective sustaining of the idea which results in bringing the motion about, and which is equivalent to mental consent that those consequences become real, involves considerable effort of volition. Now the unpleasant consequences may be immediate—my body may be weary, or the movement violent,

¹ *The Duality of the Mind*, by A. L. Wigan, M.D., p. 123.

and involve a great amount of that general and special afferent feeling which we learned above to constitute *muscular* exertion. Under these circumstances the idea of the movement is the imagination of these massively unpleasant feelings, and nothing else. The willing of the movement is the consent to these imagined feelings becoming real,—the saying of them, “*fiat*.” The effort which the willing requires is the purely mental transition from the mere *conception* of the feelings to their *expectation*, steadfastly maintaining itself before the mind, disagreeable though it be. The motor idea, assuming at last this victorious *status*, not only uninhibited by remote associations, but inhibited no longer even by its own unpleasantness, discharges by the preappointed mechanism into the right muscles. Then the motor sensations accrue in all their expected severity, and the *muscular* effort as distinguished from the *volitional* effort has its birth.

It is needless after this to say what absolutely different phenomena these two efforts are, or to expatiate upon the unfortunateness of their being confounded under the same generic name. Muscular feelings whenever they are massive, and the body is not “fresh,” are rather disagreeable, especially when accompanied by stopped breath, congested head, bruised skin of fingers, toes, or shoulders, and strained joints. And it is only *as thus disagreeable* that the mind has difficulty in consenting to their reality. That they happen to be made real by our bodily activity is a purely accidental cir-

cumstance. A soldier standing still to be fired at, expects disagreeable sensations engendered by his bodily passivity. The action of his will, *in consenting to the expectation*, is identical with that of the sailor rising to go to the pumps. What is hard for both is *facing an idea as real*.

The action of the will must not be limited to the willing of an act. To exert the will and to make soft muscles hard, are not one thing, but two entirely different things. Extremely frequent association may account for, but not excuse their confusion by the psychologist. The represented disagreeableness of a muscular motion may often be that which an exertion of will is called on to overcome; but as well might a cook, who daily associates the burning of the fire with the boiling of the potatoes, define the inward essence of combustion as the making of hard potatoes soft.

The action of the will is the reality of consent to a *fact* of any sort whatever, a fact in which we ourselves may play either an active or a suffering part. The fact always appears to us in an idea: and it is willed by its idea becoming victorious over inhibiting ideas, banishing negations, and remaining affirmed. The victorious idea is in every case whatsoever built up of images of feelings afferent in their origin. And the first philosophical conclusion properly so-called, into which our inquiry leads us, is a confirmation of the older sensationalist view that all the mind's materials without exception are derived from passive sensibility. Those who have

thought that sensationalism abdicated its throne and mental spontaneity came in when Professor Bain admitted a "sensation of energy exerted by the outgoing stream," have rejoiced in the wrong place altogether. There *is* a feeling of mental spontaneity, opposed in nature to all afferent feelings; but it does not, like the pretended feeling of muscular innervation, sit among them as among its peers. It is something which dominates them all, by simply choosing from their midst. It may reinforce either one in turn—a retinal image by attending to it, a motor image by willing it, a complex conception, like that of the world having a divine meaning, by believing it. Whatever mental material this element of spontaneity comes and perches on, is sustained, affirmed, selected from the rest; though but for the feeling of spontaneous psychic effort, which thus reinforces it, we are conscious every moment that it might cease to be. The whole contrast of *a priori* and empirical elements in the mind lies, I am fully convinced, in this distinction. All our mind's contents are alike empirical. What is *a priori* is only their accentuation and emphasis. This greeting of the spirit, this acquiescence, connivance, partiality, call it what you will, which seems the inward gift of our selfhood, and no essential part of the feelings, to either of which in turn it may be given,—this psychic effort pure and simple, is the fact which *a priori* psychologists really have in mind when they indignantly deny that the whole intellect is derived from sense.

V. NO CONSCIOUS DYNAMIC CONNECTION BETWEEN
THE INNER AND OUTER WORLDS

Now if we take this psychic fact for just what on the face of it it seems to be, namely, the giving to an idea the full degree of reality it can have in and for the mind, we are led to a curious view of the relations between the inner and the outer worlds. The ideas, as mere representatives of possibility, seem set up midway between them to form a sort of atmosphere in which Reality floats and plays. The mind can take any one of these ideas and make it *its* reality—sustain it, adopt it, adhere to it. But the mind's state will be Error, unless the outer force "backs" the same idea. If it backs it, the mind is cognitive of Truth; but whether in error, or in truth, the mind's espousal of the idea is called Belief. The outer force seems in no wise constrained to back the mind's adoptions, except in one single kind of case,—where the idea is that of bodily movement. Here the outer force (with certain reservations) obeys and follows the mind's lead, agreeing to father as it were every child of that sort which the mind may conceive. And the act by which the mind thus takes the lead is called a Volition.

The ideas backed by both parties are the Reality; those backed by neither, or by the mind alone, form a residuum, a sort of limbo or no-man's land, of wasted fancies and aborted possibilities.

But is it not obvious from this that the differ-

ence between Belief and Volition is not intrinsic? What the mind does in both cases is the same. It takes an image, and says, "so far as I am concerned, let this stand; let it be real for me." The behavior of the outer force is what makes all the difference. Generally constrained in the case of the motor volition, it is independent in the case of the belief. It is true that volition may be impotent and belief delusive; but be they however never so false or powerless, by their inward nature they are *ejusdem farinae*,—beliefs and volitions still.

Belief and Will are thus concerned immediately only with the relation between possibilities *for the mind* and realities *for the mind*. The notion of *reality for the mind* becomes thus the pivotal notion in the analysis of both. To analyze this notion itself seems at present an impossible task. Professor Bain has exerted his utmost powers upon it, but, to our mind, without avail; and what J. S. Mill says¹ still remains true, that when we arrive at the element which makes a belief differ from a mere conception, "we seem to have reached as it were, the central point of our intellectual nature, presupposed and built upon in every attempt to explain the more recondite phenomena of our being."

The sense of reality must then be postulated as an ultimate psychic fact. But we know that it may come with effort, or without, in the theoretic as well

¹ His edition of James Mill's *Analysis*, Vol. i, p. 423. Bain's reply is in the chapter on "Belief" in the 3d edition of his *Emotions and Will*.

as in the motor sphere; and the reader who has had the patience to follow our study of effort as far as this, will not object to going on now to consider it in both spheres together.

Hume said that to believe an idea was simply to *have* it in a lively manner. We, on our part, have seen the ideo-motor cases in which to will an idea is simply to have it. But a moment's reflection shows that such spontaneous belief and will are possible only where the mind's contents are at a minimum of complication. In the trance-subject's mind any simple suggestion will be both believed and acted on, because none of its usual associates are awakened. Bain¹ and Taine² have beautifully shown how in the normal subject all ideas taken *per se* are hallucinatory or held as true. Doubt never comes from any intrinsic insufficiency in a thought, but from the manner in which extrinsic ideas conflict with it, or in Taine's phrase, serve as its reductive. Before they come we have the primal state of theoretic and practical innocence.

But wider suggestions bring the fall, and turn the simple credulity to doubt and the fearless spontaneity to hesitation. A stable faith, a firm decree, can then only come after reflection, and be its fruits. What is reflection? A conflict between many ideas of possibility. During the conflict the sense of reality is lost or rather the connexion between it and each of the ideas in turn. The conflict

¹ *Emotions and Will*, 3d Ed., pp. 511-517.

² *De l'Intelligence*, Part i, Book ii, Chap. i.

is over when the sense of reality returns, like the tempered steel, ten times more precious and invincible for its icy bath in the waters of uncertainty. But why and how does it return? and why does it so often return with the symptom of effort by its side? Is it an independent entity which merely took its flight at the first alarm of the battle, and which now with effort as its ally and affirmation at its right hand and negation at its left, comes back to *give* the victory to one idea? Or is it a simple resultant of the victory which was a foregone conclusion decided by the intrinsic strength of the conflicting ideas alone?

We stand here in the presence of another mighty metaphysical problem. If the latter alternative be true there is no genuine spontaneity, no ambiguous power of decision, no real freedom either of faith or of act. The effort which seems to come and reinforce one side, endowing it with the feeling of reality, can be no new force adding itself to those already in the arena. It can only be a sort of eddy or derivative from their movement, whose semblance of independent form is illusory, and whose amount and direction are implicitly given the moment they are posited.

This has been the doctrine of powerful schools. The ideas themselves and their conflict have been held to constitute the total history of the mind, with no unaccounted-for phenomenon left over. Long before mutual inhibition by nerve processes had been discovered, the inhibitions and furtherances

of one idea by another, had by Herbart been erected into a completely elaborated system of psychic statics and dynamics. The English associationist school, without using the word inhibition, and in a much less outwardly systematic, though by no means less successful way, had also represented choice and decision as nothing but the resultant of different ideas failing to neutralize each other exactly. Doubt, fear, contradiction, curiosity, desire, assent, conviction, affirmation, negation and effort, are all alike, on this view, but collateral product, incidents of the form of equilibrium of the representations, as they pass from the oscillating to the stable state.

This is of course conceivable; and to have the conception in a lively manner (as Hume says) may well in us, as in so many others, carry the sense of reality with it, and command conviction. But still the other alternative conflicts, and *may* reduce this conception to one of mere possibility, degrading it from a creed to an hypothesis. It seems impossible, if our minds are in this open state, to find any crucial evidence which may decide. I shall, therefore, not pretend to dogmatize myself, but close this essay by a few considerations, which may give at least an appearance of liveliness to the alternative notion, that the mental effort with which the affirmation of reality so often comes conjoined, may be an adventitious phenomenon, not wholly given and pre-determined by the ideas of whose struggle it accompanies the settlement.

A little natural history becomes here necessary. When outer forces impinge upon a body we say that its resultant motion follows the line of least resistance, or of greatest traction. When we deliberately symbolize the mental drama in mechanical language, we also say that belief and will follow the lines of least resistance, or of most attractive motivation. But it is a curious fact that our *spontaneous* language is by no means compatible with the law that mental action always follows lines of least resistance. Of course, if we proceed *a priori* and define the line of least resistance, as the line that is followed, the law must hold good. But in all hard cases either of belief or will, it seems to the agent as if one line were easier than another, and offered least resistance, even at the moment when the other line is taken. The sailor at the pumps, he who under the surgeon's knife represses cries of pain, or he who exposes himself to ostracism for duty's sake, feels as if he were following the line of greatest temporary resistance. He speaks of conquering and overcoming his impulses and temptations.

But the sluggard, the drunkard, the coward, never talk of their conduct in that way or say they resist their energy, overcome their sobriety, conquer their courage, and so forth. If in general we class all motives as sensual on the one hand and moral on the other, the sensualist never says of his behavior that it results from a victory over his conscience, but the moralist always speaks of his

as a victory over his appetite. The sensualist uses terms of inactivity, says he forgets his ideal, is deaf to duty, and so forth; which terms seem to imply that the moral motives *per se* can be annulled without energy or effort, and that the strongest mere traction lies in the line of the sensual impulse. The moral one appears in comparison with this, a still small voice which must be artificially reinforced to prevail. Effort is what reinforces it, making things seem as if, while the sensual force were essentially a fixed quantity, the moral might be of various amount. But what determines the amount of the effort when by its aid moral force becomes victorious over a great sensual resistance? The very greatness of the resistance itself. If the sensual impulses are small, the moral effort is small. The latter is *made great* by the presence of a great antagonist to overcome. And if a brief definition of moral action were required, none could be given which would better fit the appearances than this: It is action in the line of the greatest resistance.

The facts may be most briefly symbolized thus, S standing for the sensual motive, M for the moral, and E for the effort:

$$M \text{ per se } < S.$$

$$M + E > S.$$

In other words, if E adds itself to M, S immediately offers the least resistance, and motion occurs in spite of it.

But the E does not seem to form an integral part of the M. It appears adventitious and indeterminate in advance. We can make more or less as we please, and *if* we make enough we can convert the greatest mental resistance into the least.

Now the question whether this appearance of ambiguity is illusory or real, is the question of the freedom of the will. Many subtle considerations may be brought to prove that the amount of effort which a moral motive comports as its ally, is a fixed function of the motive itself, and like it, determined in advance. On the other hand, there is the notion of an absolute ambiguity in the being of this thing, and its amount, sun-clear to the consciousness of each of us. He who loves to balance nice doubts and probabilities, need be in no hurry to decide. Like Mephistopheles to Faust, he can say to himself, "*dazu hast du noch eine lange Frist,*" for from generation to generation the evidence for both sides will grow more voluminous, and the question more exquisitely refined. But if his speculative delight is less keen, if the love of a *parti pris* outweighs that of keeping questions open, or if, as a French philosopher of genius¹ says, "*l'amour de la vie qui s'indigne de tant de discours,*" awakens in him, craving the sense of either peace or power; then taking the risk of error on his head, he must project upon one of the alternatives in his mind, the attribute of *reality for him*. The present writer does this for the alternative of freedom. May the reader derive

¹ J. Leguier: *La Recherche d'une Première Vérité*, 1865, p. 90.

no less contentment if he prefer to take the opposite course!

Only one further point remains, but that is an important one philosophically. There is no commoner remark than this, that resistance to our muscular effort is the only sense which makes us aware of a reality independent of ourselves. The reality revealed to us in this experience takes the form of a *force* like the force of effort which we ourselves exert, and the latter after a certain fashion serves to measure.¹ This force we do not similarly exert when we receive tactile, auditory, visual, and other impressions, so the same reality cannot be revealed by those passive senses.

Of course if the foregoing analysis be true, such reasoning falls to the ground. The "muscular sense" being a sum of afferent feelings is no more a "force-sense" than any other sense. It reveals to us hardness and pressure as they do colour, taste, smell, sonority, and the other attributes of the phenomenal world. To the *naïve* consciousness all these attributes are equally objective. To the critical all equally subjective. The physicist knows nothing whatever of force in a non-phenomenal sense. Force is for him only a generic name for all those *things* which will cause motion. A falling

¹ See for example, *Psychology* [presumably Spencer's. Ed.], Part VII., Chaps. XVI. and XVII.; Herschel's *Familiar Lectures*, Lecture XII.; an article on "the Force behind Nature," by Dr. Carpenter, reprinted in the *Popular Science Monthly* for March, 1880; Martineau's Review of Bain; Mansel's *Metaphysics*, pp. 105, 346.

stone, a magnet, a cylinder of steam, a man, just as they appear to sense, *are* forces. There is no super-sensible force *in* or *behind* them. Their force is just their sensible pull or push, if we take them naturally, and just their positions and motions if we take them scientifically. If we aspire to strip off from Nature all anthropomorphic qualities, there is none we should get rid of quicker than its "Force." How illusory our spontaneous notions of force grow when projected into the outer world becomes evident as soon as we reflect upon the phenomenon of muscular contraction. In pure objective dynamic terms (*i.e.*, terms of position and motion), it is the *relaxed* state of the muscle which is the state of stress and tension. In the act of contraction, on the contrary, the tension is resolved, and disappears. Our feeling about it is just the other way,—which shows how little our feeling has to do with the matter.

The subject has an interest in connection with the free-will controversy. It is an admitted mechanical principle that the resultant movement of a system of bodies linked together in definite relations of energy, may vary according to changes in their collocation, brought about by moving them at right angles to their pre-existing movements; which changes will not interfere with the conservation of the system's energy, as they perform work upon it. Certain persons desiring to harmonize free will with the theory of conservation, have used this conception to symbolize the dynamic relations of will

with brain, by saying that the mental effort merely determines the moment and the spot at which a certain molecular *vis viva* shall start, by a sort of rectangular pressure which plays the part of an independent variable in the equations of movement required by the principles of conservation. Thus free will may be conceived without any of the internal energy of the system being either augmented or destroyed.

Now so long as mental effort in general was supposed to have a particular connection with muscular effort, and so long as muscular effort was supposed to reveal to us behind the resistance of bodies, a "force" which they contained, there was a ready reply to all this speculation. Your will, it could be said, *is* doing "work" upon the system. "Work" is defined in mechanics as movement done against resistance, and your will meets with a resistance which it has to overcome by moral effort. Were the molecular movements brought about by the will, rectangular to pre-existing movements, they would not resist, and the volition would be effortless. But the volition involves effort, and since, according to the will-muscle-force-sense theory, its effort is an inner force which overcomes a real outer force, since, indeed, without this antagonism we should be without the notion of outer force altogether, why then the effort, if free, must be an absolutely new contribution and creation so far as the sum of cosmic energy is concerned. The only alternative then (if one still held to the will-muscle-force-sense

theory) was either with Sir John Herschel,¹ frankly to avow that "force" may be created anew, and that "conservation" is only an approximate law; or else to drop free-will in favor of conservation, and suppose the ego, in willing, to be merely cognitively conscious, in the midst of the universal force-stream, of certain currents with which it was mysteriously fated to identify itself.

To my mind all such discussions rest on an anthropomorphization of outward force, which is to the last degree absurd. Outward forces, so far as they are anything, are masses in certain positions, or in certain movements, and nought besides. The muscular "force-sense" reveals to us nothing but hardness and pressure, which are subjective sensations, like warmth or pain. The moral effort is not transitive between the inner and the outer worlds, but is put forth upon the inner world alone. Its point of application is an idea. Its achievement is "reality for the mind," of that idea. That, when the idea is realized, the corresponding nerve tracts should be modified, and so *de proche en proche*, the muscles contract, is one of those harmonies between inner and outer worlds, before which our reason can only avow its impotence. If our reason tries to interpret the relation as a dynamic one, and to conceive that the neural modification is brought about by the idea shoving the molecules of the ganglionic matter sideways from their course, well and good! Only we had better

¹ *Loc. cit.*, p. 468.

assume ourselves unconscious of the dynamism. We are unconscious of the molecules as such, and of our lateral push as such. Why should we be conscious of the "force" as such, by which the molecules resist the push? They are one thing, and the consciousness which they subserve is always an idea of another thing. *The only resistance which the force of consciousness feels or can feel, is the resistance which the idea makes to being consented to as real.*

CONCLUSIONS

1. Muscular effort, properly so called, and mental effort, properly so called, must be distinguished. What is commonly known as "muscular exertion" is a compound of the two.

2. The only feelings and ideas connected with muscular motion are feelings and ideas of it *as effected*. Muscular effort proper is a sum of feelings in afferent nerve tracts, resulting from motion being *effected*.

3. The pretended feeling of efferent innervation does not exist—the evidence for it drawn from paralysis of single eye muscles, vanishing when we take the position of the sound eye into account.

4. The philosophers who have located the human sense of force and spontaneity in the *nexus* between the volition and the muscular contraction, making it thus join the inner and the outer worlds, have gone astray.

5. The point of application of the volitional ef-

fort always lies within the inner world, being an idea or representation of afferent sensations of some sort. From its intrinsic nature or from the presence of other ideas, this representation may spontaneously tend to lapse from vivid and stable consciousness. Mental effort may then accompany its maintenance. That (being once maintained) it should by the connection between its cerebral seat and other bodily parts, give rise to movements in the so-called voluntary muscles, or in glands, vessels, and viscera, is a subsidiary and secondary matter, with which the psychic effort has nothing immediately to do.

6. Attention, belief, affirmation, and motor volition are thus four names for an identical process, incidental to the conflict of ideas alone, the survival of one in spite of the opposition of others.

7. The surviving idea is invested with a sense of reality which cannot at present be further analyzed.

8. The question whether, when its survival involves the feeling of effort, this feeling is determined in advance or absolutely ambiguous and matter of chance as far as all the other data are concerned, is the real question of the freedom of the will, and explains the strange intimateness of the feeling of effort to our personality.

9. To single out the sense of muscular resistance as the "force sense" which alone can make us acquainted with the reality of an outward world is an error. We cognize outer reality by every sense. The muscular makes us aware of its hardness and

pressure, just as other afferent senses make us aware of its other qualities. If they are too anthropomorphic to be true, so is it also.

10. The ideational nerve tracts alone are the seat of the feeling of mental effort. It involves no discharge downward into tracts connecting them with lower executive centres; though such discharge may follow upon the completion of the nerve processes to which the effort corresponds.

XIV

THE SENSE OF DIZZINESS IN
DEAF-MUTES ¹

[1882]

PREVENTED by outward circumstances from completing an investigation into the above subject which I would willingly have made more thorough, I publish the facts I have already obtained, in the hope that some one with better opportunities may carry on the work. The regular medical attendants of deaf-mute institutions seem particularly well fitted for such a task.

So far as I can make out, the immunity from dizziness which is characteristic of deaf-mutes has never been remarked or commented on before, even at asylums. Another illustration of how few facts "experience" will discover unless some prior interest, born of theory, is already awakened in the mind.

The modern theory, that the semicircular canals are unconnected with the sense of hearing, but serve to convey to us the feeling of movement of our head through space, a feeling which, when very intensely

[¹ Reprinted from *American Journal of Otology*, 1882, 4, 239-254. This article is briefly mentioned in the *Principles* (1890), Vol. II., p. 89, note. Ed.]

excited, passes into that of vertigo or dizziness, is well known.¹ It occurred to me that deaf-mute asylums ought to offer some corroboration of the theory in question, if a true one. Among their inmates must certainly be a considerable number in whom either the labyrinths or the auditory nerves in their totality have been destroyed by the same causes that produced the deafness. We ought therefore to expect, if the semicircular canals be really the starting-points of the sensation of dizziness, to find, on examining a large number of deaf-mutes, a certain proportion of them who are completely insusceptible of that affection, and others who enjoy immunity in a less complete degree.

The number of deaf-mutes who have been examined to test this suggestion is in all 519. Of these 186 are reported as totally insusceptible of being made dizzy by whirling rapidly round with the head in any position whatever.² Nearly 200

¹ For the benefit of possible readers who may not be physiologists I would say that a summary of the evidence for this view is given in Foster's *Text-book of Physiology*, Book III., Chap. VI., § 2. An attack on this theory has recently been made by Baginski, a very full abstract of whose article appeared in the number of this Journal for last January. Baginski's experiments seem to me far from conclusive; and his argument has been satisfactorily replied to by Högyes in Pflüger's *Archiv*, Vol. XXVI., page 558, and by Spamer, *ibid.*, Vol. XXV., page 177. [For bibliography, cf. J. Byrne, *Physiology of the Semicircular Canals and their Relation to Seasickness*, 1912. Cf. also James's "A Suggestion for the Prevention of Seasickness," *Boston Medical and Surgical Journal*, 1887, 116, 490-491. Ed.]

² It is well known that with the head leaning forward or backward, or towards one shoulder, the dizziness is much more intense.

students and instructors in Harvard College were examined for purposes of comparison, and but a single one remained exempt from the vertigo. Of the deaf-mutes, 134 are set down as dizzy in a very slight degree; while 199 were normally, and in a few cases abnormally, sensitive.

The surmise with which I started is thus proved, and the theory that the semicircular canals are organs of equilibrium receives renewed corroboration.

Of course the cases observed represent every kind of ear disease, and it is impossible to analyze them so as to show why exemption from vertigo should be associated with the deafness in one case and in another not. "Congenital" mutes are found in all three classes, and so are "semi-mutes," so that the age at which the deafness comes on has nothing to do with it. The diseases which are the most fertile causes of deafness, meningitis, scarlet fever, typhoid fever, etc., are as apt to leave the patient's sensibility to vertigo normal as they are to abolish it.

The cases from which the above aggregate conclusions are drawn are from several distinct sources: the Hartford Asylum; the National College at Washington, and its primary department; the Horace Mann School in Boston; the Clarke Institution at Northampton; the Indiana Institution; the answers to a printed circular I distributed, and a number of separate voluntary reports I received. In tabular form the statistics run as follows:

Institution.	Not dizzy.	Slightly.	Dizzy.
National College	18	5	38
Its Primary Department . .	11	1	19
Hartford	49	49	57
Boston	45	20	4
Northampton	35	30	20
Indiana	6	6	4
Circulars	28	19	46
Various	4	4	11
	186	134	199

Total, 519 cases.¹

The same case was often reported through more than one channel. I have tried as well as I could, though I fear without perfect success, to eliminate these reduplications. As regards the accuracy of the reports, there is this to be said. Among normal people it is well known how individuals differ in their sensitiveness to whirling about or swinging. The cases marked "slight" may *possibly* therefore fall within the normal limits. It is more probable however that the majority of them represent a more or less abnormally reduced susceptibility. In the

¹I add the following communication in a note because it is less exactly reported, and the observations were perhaps made more cursorily than those set down in the text. Mr. Fosdick, of the Institution at Danville, Ky., writes in March, 1881: "I selected twenty boys about half of whom had been born deaf, the other half had lost hearing. . . . I applied to them our test in the three ways. . . . With those who had lost hearing from disease the result was uniform. No dizziness could be produced. . . . With those who had been born deaf the results were equally uniform. A few seconds of spinning were in most cases sufficient to produce dizziness."

cases I myself examined, every one where the presence of vertigo was at all doubtful was recorded as "slight," so as not to overload the column of figures favorable to my hypotheses. In the Harvard College records, in which each man inscribed his own result, the expressions "slightly" and "somewhat" occur, but they do so very few times indeed. Where the vertigo was slight, it has often happened that a deaf-mute examined one day or by one person was reported "not dizzy," whilst another day or another examiner caused the case to be recorded either as "slightly dizzy" or as "dizzy." I am disposed to think that both normal and abnormal subjects differ somewhat in their sensibility to vertigo from one day to another. Löwenfeld¹ says that this is markedly the case with the vertigo induced by galvanic currents across the head, of which I shall have something to say anon.

A certain lack of rigorous accuracy in individual instances ought then to throw no discredit whatever on the main result of the investigation, which is that disease of the internal ear is likely to confer immunity from dizziness. Nobody could possibly confound the extreme cases, nor could any difference of opinion arise concerning them. We see on the one hand an affection which may nauseate the patient or make it impossible for him to stand on his feet at all; on the other, absolute and total indifference to the whirling in every respect whatsoever.

¹ *Exp. u. krit. Untersuch. zur Electrotherapie des Gehirns*, München, 1881.

As regards the method of examination, active spinning about on the feet with the head successively upright, bent forward, and inclined on one shoulder, is of course the simplest way of testing the matter. The eyes must be closed to eliminate optical vertigo pure and simple, but opened when the spinning is over, so that the patient may have every advantage for walking straight. Except in the Boston and Northampton Schools this was the method generally used. It is likely to give an unduly small number of total exemptions, from the fact that if the whirling has been long and violent, some feeling of confusion will remain for a few moments as a consequence of head congestion, and some irregularity of gait as a consequence of involuntary continuance of muscular action. This latter may be called muscular vertigo—it probably figures in many of the cases marked “slight.”

The muscular vertigo may be entirely eliminated by *passive* rotation. The children of the Boston and Northampton Schools were seated on a square board, each angle whereof had a rope affixed to it. The ropes were kept parallel up to a height above the head of the inmate by a cross-shaped brace of wood which kept them asunder at that point. Above the cross-brace they rapidly converged to the point of suspension of the apparatus. The apparatus is rotated by the examiner's hands till the ropes above the brace are tightly twisted. The child is then seated on the board, with closed eyes, and head in any position desired, and the torsion of the ropes is

left to work its effects freely. These consist in a rapid revolution of the whole apparatus, including its inmate. The moment the speed of rotation slackens, the examiner stops the rotation, and sets the child, who has been instructed previously, to open his eyes and walk as straight as possible towards a distant point on the floor. I examined all the Northampton children myself in this way, and (with my brother's assistance) repeated thus the examinations made of the children of the Horace Mann School by their teachers a year before.¹ The Harvard students were also examined in this way.

It is difficult to be sure, in many of the cases marked "slightly dizzy," whether the sensation experienced by the subject was a mild degree of true vertigo, or a slight confusion arising from the effects of centrifugal movement of the intracranial fluids and viscera. That changes of intracranial pressure will give rise to dizziness by directly influencing the brain independently of the semicir-

¹In a preliminary report of these inquiries published in the *Harvard University Bulletin* No. 18 (1881), the figures are different from those I give here. The differences are due to later observations. I regret very much that, owing to a rather incomprehensible degree of thoughtlessness, it never occurred to me to test the pupils' sense of rotation after the original Crum-Brown and Mach method; that is, to seat them in the swing with closed eyes, to rotate it gently through a comparatively small number of degrees, and to see how accurately they could afterwards assign the direction and amount of rotation. It is to be hoped that any one repeating the observations will not leave this one out. We should expect that non-dizzy deaf-mutes would be quite unaware of the rotation if it were absolutely frictionless and slow.

cular canals is evident from the number of subjects who are of reduced sensibility as respects dizziness from whirling, but who say that they feel dizzy when their head is suddenly raised from a bent position, or when they get up after stooping to the ground. In reply to a question in the circular, "Do you ever experience dizziness under any other circumstances?" [than whirling] two of the "not dizzy" class, six of the "slightly dizzy" class, and five of the "dizzy" class speak of experiencing this feeling.

In the light of all these facts it became an interesting question to ascertain whether the dizziness produced by galvanic currents through the head be due to irritation of the vertigo centres themselves or of their peripheral organ the semicircular canals. Hitzig, as is well known, made a careful study of these phenomena on normal persons; it may be found in his "*Untersuchungen über das Gehirn.*" With its theoretical conclusions it is impossible to agree. The objective facts, however, which I believe he first accurately analyzed, are these: If the subjects' eyes are open they move slowly towards the side of the anode when the current is strong, then rapidly recover themselves by a quick movement towards the side of the kathode. At the same time the world appears to swim towards the kathode, and the head and body inclined over towards the anode.

At the Northampton School we tested forty-three pupils with a galvanic current strong enough to

make four normal adults, on whom it was tried, bend body and head strongly over. Of twenty-three deaf-mutes of the "not dizzy" class, only five showed this phenomenon. Of twenty pupils of the "dizzy" class ("slight" cases were not tried) fourteen showed it in a greater or less degree. At the Boston School the girls became so nervous that the few results I obtained with them were valueless. Of the boys, fifteen "not dizzy" cases were tried, and but one swayed towards the anode. Three "slight" cases were tried; one swayed, the other two did not. One "quite dizzy" case had the current passed, but did not sway.

With respect to the subjective feelings accompanying the current's passage, they are so numerous and often so intense that a deaf-mute child experiencing them for the first time can hardly be expected to give a very lucid account of them. Stinging of the skin over the mastoid processes, subjective noises (often very loud), flashes before the eyes, strange cerebral confusion, are prominent among them. Nevertheless, it seemed evident that many of the patients whose body did not sway at all and whose eyes showed no perceptible nystagmus, *did* have some sort of a vertiginous feeling, which they expressed by moving the hand wavingly across the forehead, by saying they were "dizzy" or felt like "falling." I regard the experiments, therefore, as almost inconclusive. To be of value they should be repeated many times with the same subjects on different days, and with non-polarizable

electrodes fastened by a spring arc behind the ears, so as to follow the head in its movements without modifying the contact. The current should also be measured, which was not done accurately in the above cases.

Taken as they stand, all I feel like saying of them is that they make it appear *not improbable* that both the vertigo centre and its peripheral organ are galvanically excitable; but that the peripheral organ is much more sensitive to the current than is the centre. There was certainly a marked difference of demeanor, on the whole, between the "dizzy" and the "not dizzy" pupils of the Northampton School, when under the current, even though in many cases the difference were only one of degree.

In view of the great probability that seasickness is due to an overexcitement of the organs of vertigo, propagated to the cerebellum or whatever other "centres" of nausea there may be, I inquired of many deaf-mutes whether they had been exposed to rough weather at sea and suffered in the usual way. The majority, of course, had not been exposed. Fifteen of the "not dizzy" or "scarcely dizzy" classes had been exposed, and of these not one had been seasick. This, it is true, is negative evidence, and might easily be upset by two or three cases of exemption from dizziness with susceptibility to seasickness. This, it is true, is negative evidence, and

¹ I have three such possible counter-cases, but in all the record is so imperfect (and no address being given further inquiry cannot be made) that they cannot be used. To question 8 in the circular, "Have you been exposed to seasickness and been

sumption that non-dizzy deaf-mutes *may, ipso facto*, enjoy immunity from seasickness. And it suggests the application of small blisters behind the ears as a possible counter-irritant to that excitement of the organs beneath, in which that most intolerable of all complaints *may* take its rise.¹

Perhaps the most interesting of all the results to which our inquiries have led is the following. A certain number of non-dizzy deaf-mutes when plunged under water seem to be affected by an indescribable alarm and bewilderment, which only ceases when they find their heads above the surface. Every one who has lost himself in the woods, or wakened in the darkness of the night to find the relation of his bed's position relatively to the doors and windows of his room forgotten, knows the altogether peculiar discomfort and anxiety of such "disorientation" in the horizontal plane. In ordinary life, however, the sense of what is the *vertical* direction is never lost. Even with eyes closed, and the "static" sense, as Brewer calls it, of the semi-circular canals lost, *gravity* exerts its never-ceasing

seasick since losing your hearing?" one, forty-two years old, not dizzy, replies, "Yes, but once in my childhood." Another, slightly dizzy, thirty-nine years old, deaf at thirteen years, says, "Was greatly nauseated by my first ride in the rail cars when fourteen years old." The third, not dizzy, writes, "Was on a coast steamer for three days out of sight of land in a storm; felt slightly uncomfortable in state-room, but was all right in the open air of the deck." The state-room sickness may have been due to smell.

[¹ Cf. the author's "A Suggestion for the Prevention of Seasickness," *Boston Medical and Surgical Journal*, 1887, 116, 490-491. Ed.]

influence on our limbs, and tells us where the ground is and where the zenith, no matter what our movements may be. "So shakes the magnet, and so stands the pole." Helmholtz, who wrote his *Optics* before the semicircular canal sense was discovered, ascribes much of the seasick vertigo to the sufferer's sense of the direction of gravity being thrown out of gear: "One feels the traction of gravity [on board ship] now apparently to the right, now to the left, now forwards and now backwards, because one is no longer able to find [with his eyes] the direction of the vertical. Only after long practice, as I can myself testify, does one come to use gravity as an exclusive means of orientation, and only then does the vertigo cease."¹

But imagine a person without even the sense of gravity to guide him, and the "disorientation" ought to be complete,—a sort of bewilderment concerning his relations to his environment in all three dimensions will ensue, to which ordinary life offers absolutely no parallel. Now this case seems realized when a non-dizzy deaf-mute dives under water with

¹ *Physiol. Optik*, page 664. One of my colleagues, an eminent geologist, with a good topographical instinct, tells me that whenever he "loses his bearings" in the country, he becomes nauseated. I myself became distinctly nauseated one night after trying for a long time to imagine the right position of my bed in the dark, it having been changed a day or two previous. These facts seem to show that a purely ideal excitement of images of "direction," when strong and confused, such images being probably faint repetitions of semicircular canal feelings, may engender precisely the same physical consequences as would an equally strong and confused excitement of the canals themselves.

his eyes closed. He hears nothing (except perhaps subjective roaring) ; sees nothing ; his semicircular canal sense tells him nothing of motion up or down, right or left, or round about ; the water presses on his skin equally in each direction ; he is literally cut off from all knowledge of their relations to outer space, and ought to suffer the maximum possible degree of bewilderment to which in his mundane life a creature can attain.

I have received information bearing on this point, and distinct enough to be quoted, from thirty-three cases in all. Curious exceptions occur which I cannot understand, and which I will presently state. Meanwhile here are some extracts from my correspondents' replies which show the condition above described to be no fiction. Prof. Samuel Porter of the College at Washington, from whom I have derived most of my information on this point, says, "I am told it is the case with some deaf-mutes that they sometimes find a difficulty in rising after a dive from uncertainty as to up and down."

L. G. (not dizzy) writes :

"A year after I lost my hearing, on a day when the sun was shining brightly, I dove from a high place, and immediately after entering the water had no knowledge of locality. In what direction the top was I could not determine, and it was the same as respects the bottom. I endured agonies in searching for the surface. At last, when I had given up all hope, my head was fortunately at the surface, and I was soon master of the situation. I was told that I had been swimming on the surface with the back of my head sometimes out

of water, and at other times completely immersed. For years I could not summon up courage to dive again. I never feel at my ease under water."¹

W. H. (scarcely dizzy) writes:

"Since I became deaf it has been difficult to control myself under water. . . . When I undertake to dive into the water I immediately lose all control over my movements, and cannot tell which way is *up* or which is *down*. . . . Once I struck against something, but I am not able to say whether it was the bottom of the river or the steep rocks near the shore."

A. S. L. (not dizzy) :

"If I get my head under water it is impossible for me to tell which is the top or bottom of the river or pond, and there is a great roaring and buzzing in my head."

G. M. T. (not dizzy) :

"Before I lost my hearing I was a good diver, but after that time I could never trust my head under water."

M. C. (not dizzy) :

"Difficult to swim or dive without being frightened terribly. . . . I generally close eyes till under water, then open them till top is reached. If eyes are kept closed I become confused."

J. L. H. (doubtfully dizzy) :

"It is very seldom that any deaf-mute can escape drowning when his head has got under water. Persons with such heads as mine are rendered unable to come out of the water in the right direction."

¹ Says eyes were closed.

J. C. B. (not dizzy) :

"Dare not go under water at all unless by day and with eyes open. . . . Must keep the eyes open. Impossible to swim in the dark."

C. S. D. (not dizzy) :

"Can't dive at all. As soon as water gets in my eyes, I can't get them open; get confused, and do not know whether I am standing on my head or my feet."

A. B. (not dizzy) :

"Gets perfectly bewildered under water. Dives with closed eyes."

C. P. F. (not dizzy) :

"I undertook on one occasion to turn a summersault in water only two feet deep. It was done in such a way that I came down on my hands and knees on the bottom with my head under water. Instantly I seemed to be in water fathoms deep, facing a cliff which I was trying to climb up with my hands and feet. I pawed and pawed but could not rise, neither could I sink. There was no sensation to prove to me that I was in a horizontal position; every sensation was that of standing upright in water above my head. It seemed hours before I could climb that cliff, though it was only a second or two before my pawing brought me into water so shallow that my head appeared above the surface. Instantly the sensation of being in an upright position vanished, and I felt myself to be where I really was, on my hands and knees in the water."

Of this class of cases there are fifteen out of the thirty-three. The remaining ten "not dizzy" say they can dive perfectly well. Two of them report that they do so equally well with eyes closed or

open, and of two others Professor Porter sends me the same account. Of the residual eight there are five normal as respects dizziness. One complains of losing equilibrium, another of turning giddy, a third of "not knowing which way I am going," a fourth of "losing presence of mind," the fifth of having "lost power of directing movements." Closer inquiry of this last case showed that the perplexity only happened once, and that its cause was then the bright sunshine on the bottom of the bathing-tank which he mistook for the light of the sky.¹

Finally three cases, "slightly dizzy," complain of noises in the ears, and peculiar feelings which make diving difficult of performance.

Obviously the conditions are very complicated. In the eight last cases the symptoms might be due (in all but the fifth) to the entrance of water through a perforated tympanum. This is well known to cause both dizziness and roaring, but the presence of tympanic perforation in the subjects in question is unknown. It is impossible to say whether some of the "bewilderment" of the first fourteen may not be due to this cause, but as they report themselves "not dizzy" to whirling, this seems in the main unlikely.

The intermediate class of ten "not dizzy," four of whom we know to be able to dive with closed eyes

¹The same cause seems to have increased the bewilderment of Mr. L. G. on the occasion described in the first quotation above (page 232). He informs Professor Porter that he always keeps his eyes open under water, and that they were open on that occasion. He speaks of the sun shining brightly.

without being bewildered, is the hardest to deal with, and threatens even to upset our pretty little theory. The only reason why we do not immediately confess that it does so is the suspicion (always possible) of some error in the report, which a minute personal examination would reveal. I can therefore only hand the matter over to those with opportunities for investigation, as an as yet unsolved mystery upon which it is to be hoped they may throw some farther light.

A noteworthy fact (which shall be immediately explained) is that the non-dizzy patients who got bewildered under water were all more or less afflicted with ataxia or some other disorder of movement. A natural explanation of their trouble would then be that they had simply lost control of their limbs for swimming movements. This may be true of some: two report trouble under water soon after loss of hearing, but not now, the ataxia having meanwhile improved. But the ten non-dizzy who *can* dive happen also all to be ataxic. So that ataxia *per se* cannot be held to be an all-sufficient reason for the phenomenon in question.

The reason for the great predominance of locomotor disorders in the persons who answered my circulars is this: one of the first things I discovered on beginning my inquiries was the fact, notorious at deaf and dumb institutions but apparently not much known to the outer world, that large numbers of deaf-mutes stagger and walk zigzag, especially after dark, and are unable to stand steady with

their eyes closed. To such deaf-mutes as these were most of my circulars purposely sent. I do not refer to the awkward gait and shuffling of the feet which are so commonly exhibited at asylums,¹ but to a real difficulty in controlling their equilibrium. Congenital deaf-mutes appear hardly ever to show this peculiarity. I have only heard of two or three cases of their doing so. The bulk of those that stagger were made deaf by scarlet fever or some form of meningeal inflammation. When the facts first began to come in I naturally thought that the staggering,² which usually improves in course of time, might be due to the loss of the afferent sense most used in locomotor muscular co-ordination, supposing the semicircular canal feelings to constitute this afferent sense. In the preliminary note published in the *Harvard University Bulletin*, I wrote as follows:

“The evidence I already have in hand justifies the formation of a tentative hypothesis, as follows: The normal guiding sensation in locomotion is that from the semicircular canals. This is co-ordinated in the cerebellum (which is known to receive audi-

¹ This seems little more than a bad habit produced by two causes: (1) When they walk with each other their eyes are occupied in looking at each other's fingers and faces, and cannot survey the ground which then is, as it were, explored by the feet; and (2) Their deafness makes them insensitive to the disagreeable noise that their feet make.

² Moos, quoted by McBride (*Edinburgh Medical Journal*, February, 1882), says the staggering is cured in twenty-seven months after cerebro-spinal meningitis. I find it to have often lasted much longer.

tory nerve fibres) with the appropriate muscles, and the nervous machinery becomes structurally organized in the first few years of life. If, then, this guiding sensation be suddenly abolished by disease, the machinery is thrown completely out of gear, and must form closer connections than before either with sight or touch. But the cerebellar tracts, being already organized in another way, yield but slowly to the new co-ordinations now required, and for many years make the patient's gait uncertain, especially in the dark. Where the defect of the auditory nerve is congenital the cerebellar machinery is organized from the very outset in co-ordination with tactile sensations, and no difficulty occurs. To prove this hypothesis a minute medical examination of many typical cases will be required. If this prove confirmatory, it will then appear probable that many of the so-called paralyses after diphtheria, scarlet fever, etc., may be nothing but sudden anæsthesiæ of the semicircular canals."

The minute medical examination I spoke of, I have been prevented by circumstances from making or getting made. What ought to be done would be to carefully test the staggering patients for such anæsthesiæ of the body or limbs, losses of tendon reflex, and various locomotor symptoms of ataxia, as would show the presence of central nervous disorder independent of the labyrinthine trouble, but joint results with it of the disease that left the subject deaf. If a certain residuum of patients were found without any signs of such nerve-central

disorder, the hypothesis quoted would receive corroboration. I must confess, however, that the very large number of staggering and zigzagging deaf-mutes, who are *free* from any labyrinthine lesion (as evidenced by their being normal as respects dizziness), and whose cases have been made known to me since the preliminary report was written, make it seem plausible that the ataxic disorders usually flow directly from lesions of the locomotor centres, sequelæ of the meningitis, scarlet fever, or whatever other disease the patient may have had. Whether they do so exclusively cannot now be decided. I know of no more interesting problem for a physician with good opportunities for observation to solve, than that of the relation of the semicircular canal sense to our ordinary locomotor innervation. And certainly fresh cases of deafness coupled with loss of sensibility to rotation seem the most favorable field of study.

It has been suggested, I no longer know by whom, that the mysterious topographic instinct which some animals and certain classes of men possess, and which keeps them continuously informed of their "bearings," of which way they are heading, of the "lay of the land," etc., might be due to a kind of unconscious dead reckoning of the algebraic sum of all the angles through which they had twisted and turned in the course of their journey. If the semicircular canals are the organs of sensibility for angular rotation, the abolition of their function ought to injure the topographic faculty. I accord-

ingly asked in my circular the question: "Have you a good bump of locality?" A rather stupidly expressed phrase, but one which I supposed would be popularly intelligible. Forty-seven persons, not dizzy, or scarcely dizzy, answered this question distinctly, forty with a "yes," and seven with a "no." So that in this (truly vague enough) matter, my inquiries give no countenance to the suggestion alluded to.¹

"Dizziness" on high places was also made the subject of one of my questions. This feeling, in those who experience it normally, is a compound of various muscular, cutaneous, and visceral sensations with vertigo; and of course the answers of my correspondents, not being of an analytical sort, would be of very little value, even were they much more numerous than they are. They stand as follows:

"Are you dizzy on high places?"

Of those not or scarcely dizzy on whirling, sixteen say "yes," twenty-nine "no."

Of those dizzy on whirling, twenty-nine say "yes," and fourteen "no."

Taken in their crudity these answers suggest the bare possibility that anæsthesia of the semicircular

¹ In a long and interesting article in the *Revue Philosophique* for July, 1882 ("le Sens de l'Orientalion et ses Organes"), M. C. Viguier maintains the view that the semicircular canals are organs in whose endolymph terrestrial magnetism determines induced currents which vary with the position of the canals, and (apparently) enable the animal to recognize a lost direction as soon as he finds it again. Clever and learned as are M. Viguier's arguments, I confess they fail to awaken in me any conviction that their thesis is true.

canals *may* confer some little immunity from that particularly distressing form of imaginative weakness. The centres of imagination of falling may grow weak with the disuse of the sense for falling, and the various reflex results (feelings in the calves, hypogastrium, skin, respiratory apparatus, etc.), which help to constitute the massive feeling of dread, not following upon the sight of the abyss, as they normally should do, the subject may remain cool-headed, when in former times he would have been convulsed with emotion.

One more point, of perhaps greater interest. The following letter from Dr. Beard of New York speaks for itself:

NEW YORK, July 2, 1881.

Dear Dr. James,—Acting upon your suggestion, I have succeeded in abolishing the sense of vertigo in my trance subjects. I have accomplished this in two ways. First, by means of the swing which you have used in your experiments. I find that persons when put into trance sleep and placed in a swing which is twisted up tightly, so that it untwists rapidly, and for a considerable time, feel no dizziness or nausea, but when brought out of the trance, at once walk away without the least difficulty.

I find—as you did—that the great majority of individuals cannot in the normal state do this; but are made very dizzy and sick, and sometimes even fall out of the swing.

Secondly, by having the subject look at some limited space on the ceiling, holding his head up, and turning around rapidly four or five times. Scarcely any one can do this, in the normal condition, and walk off

straight. They will stagger, as though intoxicated or suffering from ataxia. These trance subjects, when put into that condition with their eyes open, can go through this test, and immediately walk off without any difficulty whatever.

These experiments—I may say—have been witnessed by a large number of physicians in this city, and have been confirmed independently by some of them. There is no difficulty in confirming these experiments, when you have trained subjects to coöperate with you.

I regard these experiments as of a demonstrative character; that is, as belonging to the class of experiments that prove the genuineness of the trance phenomena, since there are very few indeed who can simulate them.

I have no doubt whatever that seasickness could be cured entirely by putting persons into trance.

Yours, truly,

GEORGE M. BEARD.

Finally (to wring the last drop from an inquiry which, however slender may be its basis of fact, will be accused by no one of not having had the maximum possible number of theoretic conclusions extracted from it!), I will subjoin the following extract from one of my correspondents' letters as a crumb for vivisectional physiologists to whom the fact narrated may be unknown:

"If a dog *grows up* and his tail is cut off suddenly, he staggers so badly he cannot cross a foot log."¹

To all my correspondents I owe thanks for the facts imparted in this paper. Without the most

¹ Experiment made by a preacher in East Tennessee, a friend of the writer.

painstaking co-operation of Prof. Samuel Porter, in particular, it could hardly have been written. To Principal Williams of the Hartford School, Miss Fuller of the Boston School, and Miss Rogers, of Northampton, my best thanks are also due. Dr. J. J. Putnam has assisted me with counsel and aid in the galvanic observations. Dr. Clarence J. Blake examined the condition of the ears of the Northampton children, but not being able to deduce any conclusions relevant to my own inquiry from his observations, I leave them unrecorded here.

XV

WHAT IS AN EMOTION? ¹

[1884]

THE physiologists who, during the past few years, have been so industriously exploring the functions of the brain, have limited their attempts at explanation to its cognitive and volitional performances. Dividing the brain into sensorial and motor centres, they have found their division to be exactly paralleled by the analysis made by empirical psychology, of the perceptive and volitional parts of the mind into their simplest elements. But the *æsthetic* sphere of the mind, its longings, its pleasures and

[¹ Reprinted from *Mind*, 1884, 9, 188-205. This is James's original statement of the famous "James-Lange" theory of the emotions, made before James was acquainted with Lange's views. It is the article to which the author refers in the *Principles of Psychology* (1890) as follows: "Now the general causes of the emotions are indubitably physiological. Prof. C. Lange of Copenhagen, in a pamphlet from which I have already quoted (*ibid.*), published in 1885 a physiological theory of their constitution and conditioning, which I had already broached the previous year in an article in *Mind*" (Vol. II., p. 449). Most of the article is reprinted in the *Principles* (1890), Chap. XXV., but in scattered paragraphs. The treatment is there reorganized and greatly amplified, by the introduction, for example, of pathological material. Of the present article, the accounts of expressive reflexes (pp. 248-252); of the association of inherited emotional expressions with conventional stimuli (pp. 256-258); of the example from Brachet (p. 265); of the evidence from anæsthesia (p. 271); and of his correspondence with Strümpell (pp. 272-275)—appear not to have been reprinted. Ed.)

pains, and its emotions, have been so ignored in all these researches that one is tempted to suppose that if either Dr. Ferrier or Dr. Munk were asked for a theory in brain-terms of the latter mental facts, they might both reply, either that they had as yet bestowed no thought upon the subject, or that they had found it so difficult to make distinct hypotheses, that the matter lay for them among the problems of the future, only to be taken up after the simpler ones of the present should have been definitively solved.

And yet it is even now certain that of two things concerning the emotions, one must be true. Either separate and special centres, affected to them alone, are their brain-seat, or else they correspond to processes occurring in the motor and sensory centres, already assigned, or in others like them, not yet mapped out. If the former be the case we must deny the current view, and hold the cortex to be something more than the surface of "projection" for every sensitive spot and every muscle in the body. If the latter be the case, we must ask whether the emotional "process" in the sensory or motor centre be an altogether peculiar one, or whether it resembles the ordinary perceptive processes of which those centres are already recognised to be the seat. The purpose of the following pages is to show that the last alternative comes nearest to the truth, and that the emotional brain-processes not only resemble the ordinary censorial brain-processes, but in very truth *are* nothing but such

processes variously combined. The main result of this will be to simplify our notions of the possible complications of brain-physiology, and to make us see that we have already a brain-scheme in our hands whose applications are much wider than its authors dreamed. But although this seems to be the chief result of the arguments I am to urge, I should say that they were not originally framed for the sake of any such result. They grew out of fragmentary introspective observations, and it was only when these had already combined into a theory that the thought of the simplification the theory might bring to cerebral physiology occurred to me, and made it seem more important than before.

I should say first of all that the only emotions I propose expressly to consider here are those that have a distinct bodily expression. That there are feelings of pleasure and displeasure, of interest and excitement, bound up with mental operations, but having no obvious bodily expression for their consequence, would, I suppose, be held true by most readers. Certain arrangements of sounds, of lines, of colours, are agreeable, and others the reverse, without the degree of the feeling being sufficient to quicken the pulse or breathing, or to prompt to movements of either the body or the face. Certain sequences of ideas charm us as much as others tire us. It is a real intellectual delight to get a problem solved, and a real intellectual torment to have to leave it unfinished. The first set of examples, the sounds, lines, and colours, are either bodily sensa-

tions, or the images of such. The second set seem to depend on processes in the ideational centres exclusively. Taken together, they appear to prove that there are pleasures and pains inherent in certain forms of nerve-action as such, wherever that action occur. The case of these feelings we will at present leave entirely aside, and confine our attention to the more complicated cases in which a wave of bodily disturbance of some kind accompanies the perception of the interesting sights or sounds, or the passage of the exciting train of ideas. Surprise, curiosity, rapture, fear, anger, lust, greed, and the like, become then the names of the mental states with which the person is possessed. The bodily disturbances are said to be the "manifestation" of these several emotions, their "expression" or "natural language"; and these emotions themselves, being so strongly characterized both from within and without, may be called the *standard* emotions.

Our natural way of thinking about these standard emotions is that the mental perception of some fact excites the mental affection called the emotion, and that this latter state of mind gives rise to the bodily expression. My thesis on the contrary is that *the bodily changes follow directly the PERCEPTION of the exciting fact, and that our feeling of the same changes as they occur is the emotion*. Common sense says, we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence

is incorrect, that the one mental state is not immediately induced by the other, that the bodily manifestations must first be interposed between, and that the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble, because we are sorry, angry, or fearful, as the case may be. Without the bodily states following on the perception, the latter would be purely cognitive in form, pale, colourless, destitute of emotional warmth. We might then see the bear, and judge it best to run, receive the insult and deem it right to strike, but we could not actually *feel* afraid or angry.

Stated in this crude way, the hypothesis is pretty sure to meet with immediate disbelief. And yet neither many nor far-fetched considerations are required to mitigate its paradoxical character, and possibly to produce conviction of its truth.

To begin with, readers of this Journal do not need to be reminded that the nervous system of every living thing is but a bundle of predispositions to react in particular ways upon the contact of particular features of the environment. As surely as the hermit-crab's abdomen presupposes the existence of empty whelk-shells somewhere to be found, so surely do the hound's olfactories imply the existence, on the one hand, of deer's or foxes' feet, and on the other, the tendency to follow up their tracks. The neural machinery is but a hyphen between determinate arrangements of matter outside the body

and determinate impulses to inhibition or discharge within its organs. When the hen sees a white oval object on the ground, she cannot leave it; she must keep upon it and return to it, until at last its transformation into a little mass of moving chirping down elicits from her machinery an entirely new set of performances. The love of man for woman, or of the human mother for her babe, our wrath at snakes and our fear of precipices, may all be described similarly, as instances of the way in which peculiarly conformed pieces of the world's furniture will fatally call forth most particular mental and bodily reactions, in advance of, and often in direct opposition to, the verdict of our deliberate reason concerning them. The labours of Darwin and his successors are only just beginning to reveal the universal parasitism of each special creature upon other special things, and the way in which each creature brings the signature of its special relations stamped on its nervous system with it upon the scene.

Every living creature is in fact a sort of lock, whose wards and springs presuppose special forms of key,—which keys however are not born attached to the locks, but are sure to be found in the world near by as life goes on. And the locks are indifferent to any but their own keys. The egg fails to fascinate the hound, the bird does not fear the precipice, the snake waxes not wroth at his kind, the deer cares nothing for the woman or the human babe. Those who wish for a full development of

this point of view, should read Schneider's *Der thierische Wille*,—no other book shows how accurately anticipatory are the actions of animals, of the specific features of the environment in which they are to live.

Now among these nervous anticipations are of course to be reckoned the emotions, so far as these may be called forth directly by the perception of certain facts. In advance of all experience of elephants no child can but be frightened if he suddenly find one trumpeting and charging upon him. No woman can see a handsome little naked baby without delight, no man in the wilderness see a human form in the distance without excitement and curiosity. I said I should consider these emotions only so far as they have bodily movements of some sort for their accompaniments. But my first point is to show that their bodily accompaniments are much more far-reaching and complicated than we ordinarily suppose.

In the earlier books on Expression, written mostly from the artistic point of view, the signs of emotion visible from without were the only ones taken account of. Sir Charles Bell's celebrated *Anatomy of Expression* noticed the respiratory changes; and Bain's and Darwin's treatises went more thoroughly still into the study of the visceral factors involved,—changes in the functioning of glands and muscles, and in that of the circulatory apparatus. But not even a Darwin has exhaustively enumerated *all* the bodily affections charac-

teristic of any one of the standard emotions. More and more, as physiology advances, we begin to discern how almost infinitely numerous and subtle they must be. The researches of Mosso with the plethysmograph have shown that not only the heart, but the entire circulatory system, forms a sort of sounding-board, which every change of our consciousness, however slight, may make reverberate. Hardly a sensation comes to us without sending waves of alternate constriction and dilatation down the arteries of our arms. The blood-vessels of the abdomen act reciprocally with those of the more outward parts. The bladder and bowels, the glands of the mouth, throat, and skin, and the liver, are known to be affected gravely in certain severe emotions, and are unquestionably affected transiently when the emotions are of a lighter sort. That the heart-beats and the rhythm of breathing play a leading part in all emotions whatsoever, is a matter too notorious for proof. And what is really equally prominent, but less likely to be admitted until special attention is drawn to the fact, is the continuous co-operation of the voluntary muscles in our emotional states. Even when no change of outward attitude is produced, their inward tension alters to suit each varying mood, and is felt as a difference of tone or of strain. In depression the flexors tend to prevail; in elation or belligerent excitement the extensors take the lead. And the various permutations and combinations of which these organic activities are susceptible, make it abstractly

possible that no shade of emotion, however slight, should be without a bodily reverberation as unique, when taken in its totality, as is the mental mood itself.

The immense number of parts modified in each emotion is what makes it so difficult for us to reproduce in cold blood the total and integral expression of any one of them. We may catch the trick with the voluntary muscles, but fail with the skin, glands, heart, and other viscera. Just as an artificially imitated sneeze lacks something of the reality, so the attempt to imitate an emotion in the absence of its normal instigating cause is apt to be rather "hollow."

The next thing to be noticed is this, that every one of the bodily changes, whatsoever it be, is *felt*, acutely or obscurely, the moment it occurs. If the reader has never paid attention to this matter, he will be both interested and astonished to learn how many different local bodily feelings he can detect in himself as characteristic of his various emotional moods. It would be perhaps too much to expect him to arrest the tide of any strong gust of passion for the sake of any such curious analysis as this; but he can observe more tranquil states, and that may be assumed here to be true of the greater which is shown to be true of the less. Our whole cubic capacity is sensibly alive; and each morsel of it contributes its pulsations of feeling, dim or sharp, pleasant, painful, or dubious, to that sense of personality that every one of us unfailingly carries

with him. It is surprising what little items give accent to these complexes of sensibility. When worried by any slight trouble, one may find that the focus of one's bodily consciousness is the contraction, often quite inconsiderable, of the eyes and brows. When momentarily embarrassed, it is something in the pharynx that compels either a swallow, a clearing of the throat, or a slight cough; and so on for as many more instances as might be named. Our concern here being with the general view rather than with the details, I will not linger to discuss these but, assuming the point admitted that every change that occurs must be felt, I will pass on.¹

I now proceed to urge the vital point of my whole theory, which is this. If we fancy some strong emotion, and then try to abstract from our consciousness of it all the feelings of its characteristic bodily symptoms, we find we have nothing left behind, no "mind-stuff" out of which the emotion can be constituted, and that a cold and neutral state of intel-

¹ Of course the physiological question arises, *how* are the changes felt?—*after* they are produced, by the sensory nerves of the organs bringing back to the brain a report of the modifications that have occurred? or *before* they are produced, by our being conscious of the outgoing nerve-currents starting on their way downward towards the parts they are to excite? I believe all the evidence we have to be in favour of the former alternative. The question is too minute for discussion here, but I have said something about it in a paper entitled "The Feeling of Effort," in the *Anniversary Memoirs of the Boston Natural History Society*, 1880 (translated in *La Critique Philosophique* for that year, and summarized in *Mind* XX. [1880], 582). [See above, p. 151. Ed.] See also G. E. Müller's *Grundlegung der Psychophysik*, § 110.

lectual perception is all that remains. It is true, that although most people, when asked, say that their introspection verifies this statement, some persist in saying theirs does not. Many cannot be made to understand the question. When you beg them to imagine away every feeling of laughter and of tendency to laugh from their consciousness of the ludicrousness of an object, and then to tell you what the feeling of its ludicrousness would be like, whether it be anything more than the perception that the object belongs to the class "funny," they persist in replying that the thing proposed is a physical impossibility, and that they always *must* laugh, if they see a funny object. Of course the task proposed is not the practical one of seeing a ludicrous object and annihilating one's tendency to laugh. It is the purely speculative one of subtracting certain elements of feeling from an emotional state supposed to exist in its fulness, and saying what the residual elements are. I cannot help thinking that all who rightly apprehend this problem will agree with the proposition above laid down. What kind of an emotion of fear would be left, if the feelings neither of quickened heart-beats nor of shallow breathing, neither of trembling lips nor of weakened limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible to think. Can one fancy the state of rage and picture no ebullition of it in the chest, no flushing of the face, no dilatation of the nostrils, no clenching of the teeth, no impulse to vigorous action, but

in their stead limp muscles, calm breathing, and a placid face? The present writer, for one, certainly cannot. The rage is as completely evaporated as the sensation of its so-called manifestations, and the only thing that can possibly be supposed to take its place is some cold-blooded and dispassionate judicial sentence, confined entirely to the intellectual realm, to the effect that a certain person or persons merit chastisement for their sins. In like manner of grief: what would it be without its tears, its sobs, its suffocation of the heart, its pang in the breast-bone? A feelingless cognition that certain circumstances are deplorable, and nothing more. Every passion in turn tells the same story. A purely disembodied human emotion is a nonentity. I do not say that it is a contradiction in the nature of things; or that pure spirits are necessarily condemned to cold intellectual lives; but I say that for *us*, emotion dissociated from all bodily feeling is inconceivable. The more closely I scrutinise my states, the more persuaded I become, that whatever moods, affections, and passions I have, are in very truth constituted by, and made up of, those bodily changes we ordinarily call their expression or consequence; and the more it seems to me that if I were to become corporeally anæsthetic, I should be excluded from the life of the affections, harsh and tender alike, and drag out an existence of merely cognitive or intellectual form. Such an existence, although it seems to have been the ideal of ancient sages, is too apathetic to be keenly sought after by those born after

the revival of the worship of sensibility, a few generations ago.

But if the emotion is nothing but the feeling of the reflex bodily effects of what we call its "object," effects due to the connate adaptation of the nervous system to that object, we seem immediately faced by this objection: most of the objects of civilised men's emotions are things to which it would be preposterous to suppose their nervous systems connately adapted. Most occasions of shame and many insults are purely conventional, and vary with the social environment. The same is true of many matters of dread and of desire, and of many occasions of melancholy and regret. In these cases, at least, it would seem that the ideas of shame, desire, regret, etc., must first have been attached by education and association to these conventional objects before the bodily changes could possibly be awakened. And if, in *these* cases the bodily changes follow the ideas, instead of giving rise to them, why not then in all cases?

To discuss thoroughly this objection would carry us deep into the study of purely intellectual *Æsthetics*. A few words must here suffice. We will say nothing of the argument's failure to distinguish between the idea of an emotion and the emotion itself. We will only recall the well-known evolutionary principle that when a certain power has once been fixed in an animal by virtue of its utility in presence of certain features of the environment, it may turn out to be useful in presence of other

features of the environment that had originally nothing to do with either producing or preserving it. A nervous tendency to discharge being once there, all sorts of unforeseen things may pull the trigger and let loose the effects. That among these things should be conventionalities of man's contriving is a matter of no psychological consequence whatever. The most important part of my environment is my fellow-man. The consciousness of his attitude towards me is the perception that normally unlocks most of my shames and indignations and fears. The extraordinary sensitiveness of this consciousness is shown by the bodily modifications wrought in us by the awareness that our fellow-man is noticing us *at all*. No one can walk across the platform at a public meeting with just the same muscular innervation he uses to walk across his room at home. No one can give a message to such a meeting without organic excitement. "Stage-fright" is only the extreme degree of that wholly irrational personal self-consciousness which every one gets in some measure, as soon as he feels the eyes of a number of strangers fixed upon him, even though he be inwardly convinced that their feeling towards him is of no practical account.¹ This being so, it is not surprising that the additional per-

¹ Let it be noted in passing that this personal self-consciousness seems an altogether bodily affair, largely a consciousness of our attitude, and that, like other emotions, it reacts on its physical condition, and leads to modifications of the attitude,—to a certain rigidity in most men, but in children to a regular twisting and squirming fit, and in women to various gracefully shy poses.

suasion that my fellow-man's attitude means either well or ill for me, should awaken stronger emotions still. In primitive societies "Well" may mean handing me a piece of beef, and "Ill" may mean aiming a blow at my skull. In our "cultured age," "Ill" may mean cutting me in the street, and "Well," giving me an honorary degree. What the action itself may be is quite insignificant, so long as I can perceive in it intent or *animus*. That is the emotion-arousing perception; and may give rise to as strong bodily convulsions in me, a civilised man experiencing the treatment of an artificial society, as in any savage prisoner of war, learning whether his captors are about to eat him or to make him a member of their tribe.

But now, this objection disposed of, there arises a more general doubt. Is there any evidence, it may be asked, for the assumption that particular perceptions *do* produce widespread bodily effects by a sort of immediate physical influence, antecedent to the arousal of an emotion or emotional idea?

The only possible reply is, that there is most assuredly such evidence. In listening to poetry, drama, or heroic narrative, we are often surprised at the cutaneous shiver which like a sudden wave flows over us, and at the heart-swelling and the lachrymal effusion that unexpectedly catch us at intervals. In listening to music, the same is even more strikingly true. If we abruptly see a dark moving form in the woods, our heart stops beating, and we catch our breath instantly and before any

articulate idea of danger can arise. If our friend goes near to the edge of a precipice, we get the well-known feeling of "all-overishness," and we shrink back, although we positively *know* him to be safe, and have no distinct imagination of his fall. The writer well remembers his astonishment, when a boy of seven or eight, at fainting when he saw a horse bled. The blood was in a bucket, with a stick in it, and, if memory does not deceive him, he stirred it round and saw it drip from the stick with no feeling save that of childish curiosity. Suddenly the world grew black before his eyes, his ears began to buzz, and he knew no more. He had never heard of the sight of blood producing faintness or sickness, and he had so little repugnance to it, and so little apprehension of any other sort of danger from it, that even at that tender age, as he well remembers, he could not help wondering how the mere physical presence of a pailful of crimson fluid could occasion in him such formidable bodily effects.

Imagine two steel knife-blades with their keen edges crossing each other at right angles, and moving to and fro. Our whole nervous organisation is "on edge" at the thought; and yet what emotion can be there except the unpleasant nervous feeling itself, or the dread that more of it may come? The entire fund and capital of the emotion here is the senseless bodily effect the blades immediately arouse. This case is typical of a class: where an ideal emotion seems to precede the bodily symptoms, it is often nothing but a representation of the symptoms

themselves. One who has already fainted at the sight of blood may witness the preparations for a surgical operation with uncontrollable heart-sinking and anxiety. He anticipates certain feelings, and the anticipation precipitates their arrival. I am told of a case of morbid terror, of which the subject confessed that what possessed her seemed, more than anything, to be the fear of fear itself. In the various forms of what Professor Bain calls "tender emotion," although the appropriate object must usually be directly contemplated before the emotion can be aroused, yet sometimes thinking of the symptoms of the emotion itself may have the same effect. In sentimental natures, the thought of "yearning" will produce real "yearning." And, not to speak of coarser examples, a mother's imagination of the caresses she bestows on her child may arouse a spasm of parental longing.

In such cases as these, we see plainly how the emotion both begins and ends with what we call its effects or manifestations. It has no mental *status* except as either the presented feeling, or the idea, of the manifestations; which latter thus constitute its entire material, its sum and substance, and its stock-in-trade. And these cases ought to make us see how in all cases the feeling of the manifestations may play a much deeper part in the constitution of the emotion than we are wont to suppose.

If our theory be true, a necessary corollary of it ought to be that any voluntary arousal of the so-called manifestations of a special emotion ought to

give us the emotion itself. Of course in the majority of emotions, this test is inapplicable; for many of the manifestations are in organs over which we have no volitional control. Still, within the limits in which it can be verified, experience fully corroborates this test. Every one knows how panic is increased by flight, and how the giving way to the symptoms of grief or anger increases those passions themselves. Each fit of sobbing makes the sorrow more acute, and calls forth another fit stronger still, until at last repose only ensues with lassitude and with the apparent exhaustion of the machinery. In rage, it is notorious how we "work ourselves up" to a climax by repeated outbreaks of expression. Refuse to express a passion, and it dies. Count ten before venting your anger, and its occasion seems ridiculous. Whistling to keep up courage is no mere figure of speech. On the other hand, sit all day in a moping posture, sigh, and reply to everything with a dismal voice, and your melancholy lingers. There is no more valuable precept in moral education than this, as all who have experience know: if we wish to conquer undesirable emotional tendencies in ourselves, we must assiduously, and in the first instance coldbloodedly, go through the *outward motions* of those contrary dispositions we prefer to cultivate. The reward of persistency will infallibly come, in the fading out of the sullenness or depression, and the advent of real cheerfulness and kindness in their stead. Smooth the brow, brighten the eye, contract the dorsal rather than the ventral

aspect of the frame, and speak in a major key, pass the genial compliment, and your heart must be frigid indeed if it do not gradually thaw!

The only exceptions to this are apparent, not real. The great emotional expressiveness and mobility of certain persons often lead us to say "They would feel more if they talked less." And in another class of persons, the explosive energy with which passion manifests itself on critical occasions, seems correlated with the way in which they bottle it up during the intervals. But these are only eccentric types of character, and within each type the law of the last paragraph prevails. The sentimentalist is so constructed that "gushing" is his or her normal mode of expression. Putting a stopper on the "gush" will only to a limited extent cause more "real" activities to take its place; in the main it will simply produce listlessness. On the other hand the ponderous and bilious "slumbering volcano," let him repress the expression of his passions as he will, will find them expire if they get no vent at all; whilst if the rare occasions multiply which he deems worthy of their outbreak, he will find them grow in intensity as life proceeds.

I feel persuaded there is no real exception to the law. The formidable effects of suppressed tears might be mentioned, and the calming results of speaking out your mind when angry and having done with it. But these are also but specious wanderings from the rule. Every perception must lead to *some* nervous result. If this be the normal

emotional expression, it soon expends itself, and in the natural course of things a calm succeeds. But if the normal issue be blocked from any cause, the currents may under certain circumstances invade other tracts, and there work different and worse effects. Thus vengeful brooding may replace a burst of indignation; a dry heat may consume the frame of one who fain would weep, or he may, as Dante says, turn to stone within; and then tears or a storming-fit may bring a grateful relief. When we teach children to repress their emotions, it is not that they may *feel* more, quite the reverse. It is that they may *think* more! for to a certain extent whatever nerve-currents are diverted from the regions below, must swell the activity of the thought-tracts of the brain.¹

The last great argument in favour of the priority of the bodily symptoms to the felt emotion is the ease with which we formulate by its means pathological cases and normal cases under a common scheme. In every asylum we find examples of absolutely unmotivated fear, anger, melancholy, or conceit; and others of an equally unmotivated apathy

¹ This is the opposite of what happens in injuries to the brain, whether from outward violence, inward rupture or tumor, or mere starvation from disease. The cortical permeability seems reduced, so that excitement, instead of propagating itself laterally through the ideational channels as before, tends to take the downward track into the organs of the body. The consequence is that we have tears, laughter, and temper-fits, on the most insignificant provocation, accompanying a proportional feebleness in logical thought and the power of volitional attention and decision.

which persists in spite of the best of outward reasons why it should give way. In the former cases we must suppose the nervous machinery to be so "labile" in some one emotional direction, that almost every stimulus, however inappropriate, will cause it to upset in that way, and as a consequence to engender the particular complex of feelings of which the psychic body of the emotion consists. Thus, to take one special instance, if inability to draw deep breath, fluttering of the heart, and that peculiar epigastric change felt as "precordial anxiety," with an irresistible tendency to take a somewhat crouching attitude and to sit still, and with perhaps other visceral processes not now known, all spontaneously occur together in a certain person; his feeling of their combination is the emotion of dread, and he is the victim of what is known as morbid fear. A friend who has had occasional attacks of this most distressing of all maladies, tells me that in his case the whole drama seems to centre about the region of the heart and respiratory apparatus, that his main effort during the attacks is to get control of his inspirations and to slow his heart, and that the moment he attains to breathing deeply and to holding himself erect, the dread, *ipso facto*, seems to depart.¹

¹ It must be confessed that there are cases of morbid fear in which objectively the heart is not much perturbed. These however fail to prove anything against our theory, for it is of course possible that the cortical centres normally percipient of dread as a complex of cardiac and other organic sensations due to real bodily change, should become *primarily* excited in brain-disease, and give rise to an hallucination of the changes being there,—an hallucination of dread, consequently, coexistent with

The account given to Brachet by one of his own patients of her opposite condition, that of emotional insensibility, has been often quoted, and deserves to be quoted again :

"I still continue (she says) to suffer constantly; I have not a moment of comfort, and no human sensations. Surrounded by all that can render life happy and agreeable, still to me the faculty of enjoyment and of feeling is wanting—both have become physical impossibilities. In everything, even in the most tender caresses of my children, I find only bitterness. I cover them with kisses, but there is something between their lips and mine; and this horrid something is between me and all the enjoyments of life. My existence is incomplete. The functions and acts of ordinary life, it is true, still remain to me; but in every one of them there is something wanting—to wit, the feeling which is proper to them, and the pleasure which follows them. . . . *Each of my senses, each part of my proper self, is as it were separated from me and can no longer afford me any feeling; this impossibility seems to depend upon a void which I feel in the front of my head, and to be due to the diminution of the sensibility over the whole surface of my body, for it seems to me that I never actually reach the objects which I touch. . . . I*

a comparatively calm pulse, etc. I say it is possible, for I am ignorant of observations which might test the fact. Trance, ecstasy, etc., offer analogous examples,—not to speak of ordinary dreaming. Under all these conditions one may have the liveliest subjective feelings, either of eye or ear, or of the more visceral and emotional sort, as a result of pure nerve-central activity, with complete peripheral repose. Whether the subjective strength of the feeling be due in these cases to the actual energy of the central disturbance, or merely to the narrowing of the field of consciousness, need not concern us. In the asylum cases of melancholy, there is usually a narrowing of the field.

feel well enough the changes of temperature on my skin, but I no longer experience the internal feeling of the air when I breathe. . . . All this would be a small matter enough, but for its frightful result, which is that of the impossibility of any other kind of feeling and of any sort of enjoyment, although I experience a need and desire of them that render my life an incomprehensible torture. Every function, every action of my life remains, but deprived of the feeling that belongs to it, of the enjoyment that should follow it. My feet are cold, I warm them, but gain no pleasure from the warmth. I recognize the taste of all I eat, without getting any pleasure from it. . . . My children are growing handsome and healthy, everyone tells me so, I see it myself, but the delight, the inward comfort I ought to feel, I fail to get. Music has lost all charm for me, I used to love it dearly. My daughter plays very well, but for me it is mere noise. That lively interest which a year ago made me hear a delicious concert in the smallest air their fingers played,—that thrill, that general vibration which made me shed such tender tears,—all that exists no more.”¹

Other victims describe themselves as closed in walls of ice or covered with an india-rubber integument, through which no impression penetrates to the sealed-up sensibility.

If our hypothesis be true, it makes us realise more deeply than ever how much our mental life is knit up with our corporeal frame, in the strictest sense of the term. Rapture, love, ambition, indignation, and pride, considered as feelings, are fruits of the

¹ Quoted by Semal: *Dè la Sensibilité générale dans les Affections mélancoliques*, Paris, 1876, pp. 130–135.

same soil with the grossest bodily sensations of pleasure and of pain. But it was said at the outset that this would be affirmed only of what we then agreed to call the "standard" emotions; and that those inward sensibilities that appeared devoid at first sight of bodily results should be left out of our account. We had better, before closing, say a word or two about these latter feelings.

They are, the reader will remember, the moral, intellectual, and æsthetic feelings. Concords of sounds, of colours, of lines, logical consistencies, teleological fitness, affect us with a pleasure that seems ingrained in the very form of the representation itself, and to borrow nothing from any reverberation surging up from the parts below the brain. The Herbartian psychologists have tried to distinguish feelings due to the *form* in which ideas may be arranged. A geometrical demonstration may be as "pretty" and an act of justice as "neat" as a drawing or a tune, although the prettiness and neatness seem here to be a pure matter of sensation, and there to have nothing to do with sensation. We have then, or some of us seem to have, genuinely *cerebral* forms of pleasure and displeasure, apparently not agreeing in their mode of production with the so-called "standard" emotions we have been analysing. And it is certain that readers whom our reasons have hitherto failed to convince, will now start up at this admission, and consider that by it we give up our whole case. Since musical perceptions, since logical ideas, can immediately arouse a

form of emotional feeling, they will say, is it not more natural to suppose that in the case of the so-called "standard" emotions, prompted by the presence of objects or the experience of events, the emotional feeling is equally immediate, and the bodily expression something that comes later and is added on?

But a sober scrutiny of the cases of pure cerebral emotion gives little force to this assimilation. Unless in them there actually be coupled with the intellectual feeling a bodily reverberation of some kind, unless we actually laugh at the neatness of the mechanical device, thrill at the justice of the act, or tingle at the perfection of the musical form, our mental condition is more allied to a judgment of *right* than to anything else. And such a judgment is rather to be classed among awarenesses of truth: it is a *cognitive* act. But as a matter of fact the intellectual feeling hardly ever does exist thus unaccompanied. The bodily sounding-board is at work, as careful introspection will show, far more than we usually suppose. Still, where long familiarity with a certain class of effects has blunted emotional sensibility thereto as much as it has sharpened the taste and judgment, we do get the intellectual emotion, if such it can be called, pure and undefiled. And the dryness of it, the paleness, the absence of all glow, as it may exist in a thoroughly expert critic's mind, not only shows us what an altogether different thing it is from the "standard" emotions we considered first, but makes us suspect that

almost the entire difference lies in the fact that the bodily sounding-board, vibrating in the one case, is in the other mute. "Not so very bad" is, in a person of consummate taste, apt to be the highest limit of approving expression. "*Rien ne me choque*" is said to have been Chopin's superlative of praise of new music. A sentimental layman would feel, and ought to feel, horrified, on being admitted into such a critic's mind, to see how cold, how thin, how void of human significance, are the motives for favour or disfavour that there prevail. The capacity to make a nice spot on the wall will outweigh a picture's whole content; a foolish trick of words will preserve a poem; an utterly meaningless fitness of sequence in one musical composition set at naught any amount of "expressiveness" in another.

I remember seeing an English couple sit for more than an hour on a piercing February day in the Academy at Venice before the celebrated "Assumption" by Titian; and when I, after being chased from room to room by the cold, concluded to get into the sunshine as fast as possible and let the pictures go, but before leaving drew reverently near to them to learn with what superior forms of susceptibility they might be endowed, all I overheard was the woman's voice murmuring: "What a *deprecatory* expression her face wears! What self-abnegation! How *unworthy* she feels of the honour she is receiving!" Their honest hearts had been kept warm all the time by a glow of spurious sentiment that would have fairly made old Titian sick. Mr. Ruskin

somewhere makes the (for him) terrible admission that religious people as a rule care little for pictures, and that when they do care for them they generally prefer the worst ones to the best. Yes! in every art, in every science, there is the keen perception of certain relations being *right* or not, and there is the emotional flush and thrill consequent thereupon. And these are two things, not one. In the former of them it is that experts and masters are at home. The latter accompaniments are bodily commotions that they may hardly feel, but that may be experienced in their fulness by *Crétins* and Philistines in whom the critical judgment is at its lowest ebb. The "marvels" of Science, about which so much edifying popular literature is written, are apt to be "caviare" to the men in the laboratories. Cognition and emotion are parted even in this last retreat,—who shall say that their antagonism may not just be one phase of the world-old struggle known as that between the spirit and the flesh?—a struggle in which it seems pretty certain that neither party will definitively drive the other off the field.

To return now to our starting-point, the physiology of the brain. If we suppose its cortex to contain centres for the perception of changes in each special sense-organ, in each portion of the skin, in each muscle, each joint, and each viscus, and to contain absolutely nothing else, we still have a scheme perfectly capable of representing the process of the emotions. An object falls on a sense-organ

and is apperceived by the appropriate cortical centre; or else the latter, excited in some other way, gives rise to an idea of the same object. Quick as a flash, the reflex currents pass down through their pre-ordained channels, alter the condition of muscle, skin and viscus; and these alterations, apperceived like the original object, in as many specific portions of the cortex, combine with it in consciousness and transform it from an object-simply-apprehended into an object-emotionally-felt. No new principles have to be invoked, nothing is postulated beyond the ordinary reflex circuit, and the topical centres admitted in one shape or another by all to exist.

It must be confessed that a crucial test of the truth of the hypothesis is quite as hard to obtain as its decisive refutation. A case of complete internal and external corporeal anæsthesia, without motor alteration or alteration of intelligence except emotional apathy, would afford, if not a crucial test, at least a strong presumption, in favour of the truth of the view we have set forth; whilst the persistence of strong emotional feeling in such a case would completely overthrow our case. Hysterical anæsthesias seem never to be complete enough to cover the ground. Complete anæsthesias from organic disease, on the other hand, are excessively rare. In the famous case of Remigius Leims, no mention is made by the reporters of his emotional condition, a circumstance which by itself affords no presumption that it was normal, since as a rule nothing ever is noticed without a pre-existing question in the

mind. Dr. Georg Winter has recently described a case somewhat similar,¹ and in reply to a question, kindly writes to me as follows: "The case has been for a year and a half entirely removed from my observation. But so far as I am able to state, the man was characterised by a certain mental inertia and indolence. He was tranquil, and had on the whole the temperament of a phlegmatic. He was not irritable, not quarrelsome, went quietly about his farm-work, and left the care of his business and house-keeping to other people. In short, he gave one the impression of a placid countryman, who has no interests beyond his work." Dr. Winter adds that in studying the case he paid no particular attention to the man's psychic condition, as this seemed "*nebensächlich*" to his main purpose. I should add that the form of my question to Dr. Winter could give him no clue as to the kind of answer I expected.

Of course, this case proves nothing, but it is to be hoped that asylum-physicians and nervous specialists may begin methodically to study the relation between anæsthesia and emotional apathy. If the hypothesis here suggested is ever to be definitively confirmed or disproved it seems as if it must be by them, for they alone have the data in their hands.

P.S.—By an unpardonable forgetfulness at the time of despatching my MS. to the Editor, I ignored the existence of the extraordinary case of total anæsthesia published by Professor Strümpell in *Ziemssen's*

¹ "Ein Fall von allgemeiner Anæsthesie," *Inaugural-Dissertation*. Heidelberg, Winter, 1882.

Deutsches Archiv für klinische Medicin xxii., 321, of which I had nevertheless read reports at the time of its publication. [Cf. first report of the case in *Mind*, X., 263, translated from *Pflüger's Archiv*. Ed.] I believe that it constitutes the only remaining case of the sort in medical literature, so that with it our survey is complete. On referring to the original, which is important in many connexions, I found that the patient, a shoemaker's apprentice of fifteen, entirely anæsthetic, inside and out, with the exception of one eye and one ear, had shown *shame* on the occasion of soiling his bed, and *grief*, when a formerly favourite dish was set before him, at the thought that he could no longer taste its flavour. As Dr. Strümpell seemed however to have paid no special attention to his psychic states, so far as these are matter for our theory, I wrote to him in a few words what the essence of the theory was, and asked him to say whether he felt sure the grief and shame mentioned were real feelings in the boy's mind, or only the reflex manifestations provoked by certain perceptions, manifestations that an outside observer might note, but to which the boy himself might be insensible.

Dr. Strümpell has sent me a very obliging reply, of which I translate the most important passage.

"I must indeed confess that I naturally failed to institute with my *Anæsthetiker* observations as special as the sense of your theory would require. Nevertheless I think I can decidedly make the statement, that he was by no means completely lacking in emotional affections. In addition to the feelings of *grief* and *shame* mentioned in my paper, I recall distinctly that he showed *e.g.*, *anger*, and frequently quarrelled with the hospital attendants. He also manifested *fear* lest I should punish him. In short, I do not think that my case speaks exactly in favour of your theory. On

the other hand, I will not affirm that it positively refutes your theory. For my case was certainly one of a very centrally conditioned anæsthesia (perception-anæsthesia, like that of hysterics) and therefore the conduction of outward impressions may in him have been undisturbed."

I confess that I do not see the relevancy of the last consideration, and this makes me suspect that my own letter was too briefly or obscurely expressed to put my correspondent fully in possession of my own thought. For his reply still makes no explicit reference to anything but the outward manifestations of emotion in the boy. Is it not at least conceivable that, just as a stranger, brought into the boy's presence for the first time, and seeing him eat and drink and satisfy other natural necessities, would suppose him to have the feelings of hunger, thirst, etc., until informed by the boy himself that he did all these things with no feeling at all but that of sight and sound—is it not, I say, at least possible, that Dr. Strümpell, addressing no direct introspective questions to his patient, and the patient not being of a class from which one could expect voluntary revelations of that sort, should have similarly omitted to discriminate between a feeling and its habitual motor accompaniment, and erroneously taken the latter as proof that the former was there? Such a mistake is of course possible, and I must therefore repeat Dr. Strümpell's own words, that his case does not yet refute my theory. Should a similar case recur, it ought to be interrogated as to the inward emotional state that co-existed with the outward expressions of shame, anger, etc. And if it then turned out that the patient recognized explicitly the same mood of feeling known under those names in his former normal state, my theory would of course fall. It is, however, to me incredible that the patient should have an *identical*

feeling, for the dropping out of the organic sounding-board would necessarily diminish its volume in some way. The teacher of Dr. Strümpell's patient found a mental deficiency in him during his anæsthesia, that may possibly have been due to the consequences resulting to his general intellectual vivacity from the subtraction of so important a mass of feelings, even though they were not the whole of his emotional life. Whoever wishes to extract from the next case of total anæsthesia the maximum of knowledge about the emotions, will have to interrogate the patient with some such notion as that of my article in his mind. We can define the pure psychic emotions far better by starting from such an hypothesis and modifying it in the way of restriction and subtraction, than by having no definite hypothesis at all. Thus will the publication of my article have been justified, even though the theory it advocates, rigorously taken, be erroneous. The best thing I can say for it is, that in writing it, I have almost persuaded *myself* it may be true.

XVI

THE RELIGIOUS ASPECT OF PHILOSOPHY ¹

[1885]

It is certain that we live in a philosophic age. Mrs. Partington's mop, as she plied it against the Atlantic Ocean, was a potent engine compared with the command to "halt" with which Positivism tried, and tries, to bring the heaving tides of man's inquisitiveness to rest. The worst of it is that we are getting deeper and deeper in. Every new book thickens the fray, and is one more thing with which to settle accounts; and any bit of scientific research becomes an angle and place of vantage from which arguments are brought to bear. When a branch of human activity is fermenting like this, it happens that individual sharers in the movement profit by the common level being raised, and do easily what, perhaps, in an isolated way they never could have

[¹ Review of *The Religious Aspect of Philosophy*, by Josiah Royce, Boston, 1885. Reprinted from *Atlantic Monthly*, 1885, 55, 840-843. Interesting for the light which it throws on James's relations with idealism. In this review he states that he finds idealism to afford the most promising solution of the problem of thought's *reference to reality*. James acknowledged his obligations to Royce in a note appended to "The Function of Cognition" (1885), but he afterwards rejected the idealistic solution. Cf. *Meaning of Truth* (1909), p. 22, note. Ed.]

done at all. We doubt if, at the dawn of our present philosophic movement, say in Sir William Hamilton's time, a writer with Dr. Royce's ideas could possibly have expressed them in so easy and unencumbered and effectual form. A familiar catchword replaces a tedious setting forth; a reference to a popular writer serves instead of the heavy construction of an imaginary opponent; and above all, important objections are not likely to be overlooked or forgot.

But although the age is philosophical, it is not so after the fashion of Hegel's age in Germany, or Cousin's age in France. We have no Emperor of Philosophy in any country to-day, but a headless host of princes, with their alliances and feuds. This seems at first anarchic, and is apt to give comfort to the scoffers at metaphysical inquiry, and to all who believe that only the study of "facts" can lead to definitive results. The addition to the combatants of Dr. Royce, with his book, can only increase this first impression of confusion; for, like Descartes and Fichte and many another hero of belief, he begins by laying about him ruthlessly, and establishing a philosophic desert of doubt on which his own impregnable structure is to be reared. And yet a closer survey shows that to a great extent all these quarrels and recriminations of the modern thinkers are over matters of detail, and that, although they obey no common leader, they for the most part obey a common drift,—the drift, namely, towards a phenomenalistic or idealistic creed. To

this conclusion Dr. Royce also sweeps, with a momentum that carries him beyond Ferrier and Mill and Bain, beyond Hodgson, Renouvier, and Bowne, beyond the disciples of Schopenhauer and the disciples of Fichte and Hegel, wherever found, and beyond a number of contemporary German idealists whose names need not be cited here. Such thinkers all agree that there can be no other kind of Reality than reality-for-thought. They differ only in the arguments they use to prove this thesis, and in deciding *whose* thought and what *kind* of thought that thought which is the reality of realities may be.

Dr. Royce's new and original proof of Idealism is, so far as we know, the most positive and radical proof yet proposed. It is short and simple, when once seen, and yet so subtle that it is no wonder it was never seen before. These short and simple suggestions that philosophers make from time to time—Locke's question about essence, for example, Berkeley's about matter, Hume's about cause, and Kant's about necessary judgments,—have an intolerable way with them of *sticking*, in spite of all one can do. To scholastic minds, who have made their bed, and wish for nothing further than to snore dogmatically and comfortably on, these questions must seem like very vermin, not to be conquered by any logical insect powder or philosophic comb.

The particular gadfly which Dr. Royce adds to the list is this: "How *can* a thought refer to, intend, or signify any particular reality outside of itself?"

Suppose the reality there, and the thought there; suppose the thought to resemble just that reality, and nought besides in the world: still, asks our author, what is meant by saying that the thought *stands for* or *represents* that reality, or indeed any reality at all? Why isn't it just like the case of two eggs, or two toothaches, which may, it is true, resemble and duplicate each other exactly, but which are not held to mean or intend each other the least in the world? If the eggs and the toothaches are, each one of them, a separate substantive fact, shut up in its own skin and knowing nothing of the world outside, why are not one's thought, for example, of the Moon and the real Moon in exactly the same predicament? The Moon in our thought is our thought's Moon. Whatever we may think of her is true of her, for she is but the creature of our thinking. If we say "her hidden hemisphere is inhabited," it *is* inhabited, *for us*; and otherwise than for us *that* moon, the moon in our mind, has no existence. A critic cannot prove us wrong by bringing in a "real" moon with an uninhabited back hemisphere; he cannot, by comparing that moon with ours and showing the want of resemblance, make our moon "false." To do that, he would first have to establish that the thought in our mind was a thought *of* just that external moon, and *intended* to be true of it. But neither he nor we could establish that: it would be worse than a gratuitous, it would be a senseless, proposition. Our Moon has nothing to do with the real moon;

she is a totally additional fact, pursuing her subjective destiny all alone, and only accidentally perceived by an outside critic to agree or disagree with another moon, which he knows and chooses to call real, but which is really out of all relation to the one in our mind's eye. At most, the critic might say he was reminded or not reminded of that other moon by our Moon; but he could not say that ours gave either a true or a false account of the other, simply because ours never pretended to give any account, or to refer to the other moon, at all. Nor can we ourselves *make* it refer to that other moon, by "proposing" or "supposing" that it does so refer; all we can propose or suppose is some altogether new moon in our own mind, and refer the old one there to that one. Over all such moons we have complete control, but over nothing else under heaven. At least, thinks Dr. Royce, such ought to be our inference, if the notion of common sense be true, that our thought and the reality are two wholly disconnected things.

The more one thinks, the more one feels that there is a real puzzle here. Turn and twist as we will, we are caught in a tight trap. Although we cannot help believing that our thoughts *do* mean realities and are true or false of them, we cannot for the life of us ascertain how they *can* mean them. If thought be one thing and reality another, by what pincers, from out of all the realities, does the thought pick out the special one it intends to know? And if the thought knows the reality *falsely*, the

difficulty of answering the question becomes indeed extreme.

Our author calls the question insoluble on these terms; and we are inclined to think him right, and to suspect that his idealistic escape from the quandary may be the best one for us all to take. We supposed, just now, a critic comparing the real moon and our mental moon. Let him now help us forward. We saw that even *he* could not make it out that our mental moon should refer to just that individual real moon, and to nothing else. *We* could not make it out either, and certainly the real moon itself could not make it out. We saw, however, that we *could* make anything in our own mind refer to anything else *there*,—provided, of course, the two things were objects of a single act of thought; and the reason why our moon could not refer to the real moon was that the two moons were not facts in a common mind. But now imagine our “critic,” instead of being the mere dissevered third thing he was, to be a common mind. Imagine his thought of our thought to *be* our thought, and his thought of the real moon to *be* the real moon. Both it and we have now become consubstantial; we are reduced to a common denominator. Both of us are members of the one total Thought, and any relation which that Thought draws between its members is as real as the members themselves. If that Thought intend one of its members to “represent” the other, and represent it either falsely or truly, ‘tis but thinking, and it is done.” There is

no other way in which one thing can "represent" another; and no possibility of either truth or falsehood unless the function of *representation* be genuinely there. An "Over-Soul," of whose enveloping thought our thought and the things we think of are alike fractions,—such is the only hypothesis that can form a basis for the reality of truth and of error in the world.

The reality of truth and error are, then, Dr. Royce's novel reason for believing that all that is has the foundations of its being laid in an infinite all-inclusive Mind. Upon the highest heights of dogmatism and in the deepest depths of skepticism, alike the argument blooms, saying, "Whatever things be false, and whatever things be true, *one* thing stands forever true, and that is that the Enveloping Mind must be there to make them either false or true."

To the lay-reader, this absolute Idealism doubtless seems insubstantial and unreal enough. But it is astonishing to learn how many paths lead up to it. Dr. Royce's path is only one. The others are of various kinds and degrees, and may be found in all sorts of books, few of them together. But taken altogether, they end by making about as formidable a convergence of testimony as the history of opinion affords. The persons most pleased by Dr. Royce's book will no doubt be the Hegelians here and in Great Britain; for it seems to us that he has reached a religious result hardly distinguishable from their own, by a method entirely free from that

identification of contradictories which is the great stumbling-block in the Hegelian system of thought. The result is that all truth is known to one Thought, that is infinite, in which the world lives and moves and has its being, which abides and waxes not old, and in which there is neither variableness nor shadow of turning. The ordinary objection to a pantheistic monism like this is the ethical one, that it makes *all* that happens a portion of the eternal reason, and so must nourish a fatalistic mood, and a willingness to accept and consecrate whatever *is*, no matter what its moral quality may be. Dr. Royce is not as disdainful of this difficulty as the Hegelians are. We are not sure he has got over it, but he has bravely and beautifully attacked it; and his section on the problem of evil, in his last chapter, is as original and fresh a treatment of the subject as we know.

Unfortunately, we have no space to do more than recommend it to the reader's attention. And now that we find ourselves at the end of our tether, we wonder whether a notice entirely made up of quotations would not have been a better thing than this attempt of ours to set forth the most fundamental, it is true, but still the driest, portion of the book. Never was a philosophic work less dry; never one more suggestive of springtime, or, as we may say, more redolent of the smell of the earth. Never was a gentler, easier irony shown in discussion; and never did a more subtle analytic movement keep constantly at such close quarters with the cubical

and concrete facts of human life as shown in individuals. In the entire ethical portion of the work its author shows himself to be a first-rate moralist, in the old-fashioned sense of the word, as one who knows delightfully how to describe the lights and shadows of special moral types and tendencies. In his discussions of the ethics of "sympathy" and of the ethics of "progress" are passages which are masterpieces in this line. And here again, from the very depths of the desert of skepticism, the flower of moral faith is found to bloom. Everything in Dr. Royce is radical. There is nothing to remind one of that dreary fighting of each step of a slow retreat to which the theistic philosophers of the ordinary common-sense school have accustomed us. For this reason the work must carry a true *sursum corda* into the minds of those who feel in their bones that man's religious interests must be able to swallow and digest and grow fat upon all the facts and theories of modern science, but who yet have not the capacity to see with their own eyes how it may be done. There is plenty of leveling in Dr. Royce's book, but it all ends by being a leveling-up. The Thought of which our thought is part is lord of all, and, to use the author's own phrase, he does not see why we should clip our own wings to keep ourselves from flying out of our own coop over our own fence into our own garden. California may feel proud that a son of hers should at a stroke have scored so many points in a game not yet exceedingly familiar on the Pacific slope.

XVII

THE CONSCIOUSNESS OF LOST LIMBS ¹

[1887]

MANY persons with lost limbs still seem to feel them in their old place. This illusion is so well known, and the material for study is so abundant, that it seems strange that no more systematic effort to investigate the phenomenon should have been made. Dr. Weir Mitchell's observations in his work on "Injuries to the Nerves" (1872) are the most copious and minute with which I am acquainted. They reveal such interesting variations in the consciousness in question, that I began some years ago to seek for additional observations, in the hope that out of a large number of data, some might emerge which would throw on these variations an explanatory light.

The differences in question are principally these:

1. Some patients preserve consciousness of the limb after it has been lost; others do not.
2. In some it appears always in one fixed position; in others its apparent position changes.

¹ [Reprinted from *Proceedings of the American Society for Psychological Research*, 1887, 1, 249-258. Results bearing on sensation, perception, and will, referred to briefly in the *Principles* (1890), Vol. II., pp. 105, note, 516, note. Ed.]

3. In some the position can be made to seem to change by an effort of will; in others no effort of will can make it change; in rare cases it would even seem that the very attempt to will the change has grown impossible.

I have obtained first-hand information from a hundred and eighty-five amputated persons. Some of this was gained by personal interviews; but much the larger portion consists of replies to a circular of questions of which I sent out some eight hundred copies to addresses furnished me by some of the leading makers of artificial limbs.¹

The results are disappointing, in that they fail to explain the causes of the enumerated differences. But they tell certain things and suggest reflections which I here set down for the use of future inquirers.²

First, as to the relative frequency of the feeling of the lost parts. It existed at the time of answering my interrogatories in about three-quarters of the

¹ For these addresses I have to thank Messrs. Fisk & Arnold, of Boston; Marks, and Wicket & Bradley, of New York; Clement, and Osborne, of Philadelphia; and Douglass, of Springfield, Mass.

² One lesson from them is that in a delicate inquiry like this, little is to be gained by distributing circulars. A single patient with the right sort of lesion and a scientific mind, carefully cross-examined, is more likely to deepen our knowledge than a thousand circulars answered as the average patient answers them, even though the answers be never so thoroughly collated by the investigator. This is becoming apparent in many lines of psychological inquiry; and we shall probably, ere long, learn the limits within which the method of circulars is likely to be used with fruit.

cases of which I have reports. I say in *about* the proportion of cases, for many of the answers were not quite clear. It had existed in a much larger proportionate number, but had faded out before the time of answering. Some had ceased to feel it "immediately," or "an hour or two" after the amputation. In others it had lasted weeks, months, or years. The oldest case I have is that of a man who had had a thigh amputation performed at the age of thirteen years, and who, after he was seventy, affirmed his feeling of the lost foot to be still every whit as distinct as his feeling of the foot which remained. Amongst my one hundred and seventy-nine cases only seven are of the upper extremity. In all of these, the sense of the lost hand remained.

The consciousness of the lost limb varies from acute pain, pricking, itching, burning, cramp, uneasiness, numbness, etc., in the toes, heel, or other place, to feelings which are hardly perceptible, or which become perceptible only after a good deal of "thinking." The feeling is not due to the condition of the stump, for in both painful and healthy stumps it may be either present or absent. Where it is distinct both the lost foot or hand and the stump are felt simultaneously, each in its own place. The hand and foot are usually the only lost parts very distinctly felt, the intervening tracts seeming to disappear. A man, for example, whose arm was cut off at the shoulder-joint told me that he felt his hand budding immediately from his shoulder. This is, however, not constantly the case by any means.

Many patients with thigh-amputation feel, more or less distinctly, their knee, or their calf. But even where they do not, the foot may seem separate from the stump, though possibly located nearer it than natural. A second shoulder-joint case says his arm seems to lie on his breast, centrally with fingers closed on palm just as it did eight or ten hours before amputation.

It is a common experience, during the first weeks after amputation, for the patient to forget that his leg is gone. Many patients tell how they met with accidents, by rising suddenly and starting to walk as if their leg were still there, or by getting out of bed in the same way. Others tell how they have involuntarily put down their hand to scratch their departed foot. One man writes that he found himself preparing with scissors to cut its nails, so distinctly did he feel them. Generally the position of the lost leg follows that of the stump and artificial leg. If one is flexed the other seems flexed; if one is extended so is the other; if one swings in walking the other swings with it. In a few correspondents, however, the lost leg maintains a more or less fixed position of its own, independent of the artificial leg. One such man told me that he felt as if he had three legs in all, getting sometimes confused, in coming down stairs, between the artificial leg which he put forward, and the imaginary one which he felt bent backwards and in danger of scraping its toes upon the steps just left behind. Dr. Mitchell tells of certain arms which appeared fixedly in the last pain-

ful attitude they had occupied before amputation. One of my correspondents writes that he feels constantly a blister on his heel which was there at the time of his accident; another that he had chilblains at the time of the accident, and feels them still on his toes.

The differences in the apparent mobility of the lost part, when felt, are strange. About a hundred of the cases who feel (say) their feet, affirm that they can "work" or "wiggle" their toes at will. About fifty of them deny that they have any such power. This again is not due to the condition of the stump, for both painful and healthy stumps are found equally among those who can and among those who cannot "work their toes." Almost always when the will is exerted to move the toes, actual contraction may be perceived in the muscles of the stump. One might, therefore, expect that where the toe-moving muscles were cut off, the sense of the toes being moved might disappear. But this is not the case. I have cases of thigh amputation, in which all the foot-moving muscles are gone, and yet in which the feet or toes seem to move at will. And I have cases of lower-leg amputation in which, though the foot-moving muscles contract in the stump, the toes or feet feel motionless.

But although, in a gross sense, we are thus forced to conclude that neither the state of the stump nor the place of the amputation absolutely determines the differences of consciousness which different individuals show, it is nevertheless hard to believe

that they are not among the more important influencing conditions of the illusion which we are studying. On *a priori* grounds it seems as if they must be so. What is the phenomenon? It is what is commonly known as the extradition, or projection outwards, of a sensation whose *immediate* condition is the stimulation of a central organ of perception by an incoming nerve or nerves. As the optical centres respond to stimulation by the feeling of forms and colors and the acoustic centres by that of sounds, so do certain other centres respond by the feeling of a foot, with its toes, heel, etc. This feeling is what Johannes Müller called the "specific energy" of the neural tracts involved. It makes no difference how the tracts are excited, that feeling of a foot is their only possible response. So long as they feel at all, what they feel is the foot.¹ In the

¹ It would seem that, even in the case of congenital defect of the extremities, the brain-centres might feel in the usual ancestral way. "A nineteen-year-old girl and a man in the forties, who had each but one normal hand, the other, instead of fingers, having only little prominences of skin without bones or muscles, thought they bent their absent fingers when they bent the deformed stump. Tickling these eminences, or binding a string about the forearm, caused the same sensations as in amputated persons, and a pressure on the ulnar nerve made the outer fingers tingle. In the same way persons born with a much shortened arm have stated the length of this member to be greater than it really was. An individual whose right forearm almost entirely failed, so that the dwarfed hand seemed to spring from the elbow, was conscious of the misshapen arm as normal and almost as long as the other." I quote this remarkable passage from Valentin's *Lehrbuch der Physiologie*, Vol. II., p. 609. Valentin gives a number of references to the contemporaneous literature of the subject, and his own remarks, which occupy several pages, are well worth reading, even now.

normal state the foot thus felt is located where the eye can see and the hand touch it. When the foot which the eye sees and the hand touches is cut off, still the immediate inner feeling of it persists so long as the brain-centres retain their functions; and *in the absence of any counter-motive*, it ought, one would think, to continue located about where it used to be. There would be a counter-motive, if nerves which in the unamputated man went to the foot and were excited every time the foot was touched, were to find themselves, after the amputation, excited every time the *stump* was touched. The foot-feeling (which the nerves would continue to give) being then associated with the stump-contacts, would end (by virtue of a law of perception of which I made mention in *Mind* for 1887, p. 196)¹ by locating itself at the place at which those contacts were believed, on the testimony of the eye and the hand, to occur. In other words, the foot-feeling would fuse with the feeling resident in the stump. In but few cases does this seem to occur;² and the reason is easily found. At the places where the amputation is apt to be made, the nerves which supply the foot are all buried deeply in the tissues. Superficial contact with the stump never excites, therefore, the sensibility of the foot-nerves. All ordinary contacts of the stump, thus failing to awaken the foot-feeling in any notice-

[¹ *Cf. Principles* (1890), Vol. II., pp. 183-184. Ed.]

² I have found none. Dr. Mitchell reports one at least, in which the lost hand lay "seemingly *within* the stump" (p. 356. *Cf.* also p. 351). This was an upper-arm amputation.

able way, that feeling fails to grow associated with the stump's experiences; and when (on exceptional occasions) deep pressure of the stump awakens not only its own local cutaneous feeling but the foot-feelings due to the deeper-lying nerve, the two feelings still keep distinct in location as in quality.

There is, usually, in fact, a positive reason against their local fusion. More than one of my correspondents writes that the lost foot is best felt when the end of the stump receives the thrust of the artificial leg. Whenever the old foot is thus most felt at the moment when the artificial foot is seen to touch the ground, *that* place of contact (being both important and interesting) should be the place with which the foot-feeling would associate itself (by virtue of the mental law already referred to). In other words, we should project our foot-feeling upon the ground, as we used to before we lost the member, and we should feel it follow the movements of the artificial limb.¹ An observation of Dr. Mitchell's corroborates this view. One of his patients "lost his leg at the age of eleven, and remembers that the foot by degrees approached, and at last reached the knee. When he began to wear an artificial leg it reassumed in time its old position, and he is never at present aware of the leg as shortened, unless for some time he talks and thinks of the stump, and of the missing leg, when

¹ The principle here is the same as that by which we project to the extremity of any instrument with which we are probing, tracing, cutting, etc., the sensations which the instrument communicates to our hand when it presses the foreign matter with which it is in contact.

. . . the direction of attention to the part causes a feeling of discomfort, and the subjective sensation of active and unpleasant movement of the toes. With these feelings returns at once the delusion of the foot as being placed at the knee.”¹

The latter half of this man’s experience shows that the principles I have invoked (though probably quite sound as far as they go) are not exhaustive, and that, between fusion with the stump and projection to the end of the artificial limb, the intermediate positions of the foot remain unaccounted for. It will not do to call them vague remains of the old normal habit of projection, for often they are not vague, but quite precise. Leaving this phenomenon on one side, however, let us see what more our principles can do.

In the first place they oblige us to invert the popular way of looking at the problem. The popular mind wonders how the lost feet can still be felt. For us, the cases for wonder are those in which the lost feet are not felt. The first explanation which one clutches at, for the loss, is that the nerve-centres for perception may degenerate and grow atrophic when the sensory nerve-terminations which normally stimulate them are cut off. Extirpation of the eyeballs causes such atrophy in the occipital lobes of the brain. The spinal cord has been repeatedly found shrunken at the point of entrance of the nerves from amputated limbs. And there are a few carefully reported cases in which the degener-

¹ *Injuries of Nerves*, Philadelphia, 1872, p. 352.

ation has been traced ascending to the cortical centres, along with an equal number of cases in which no such ascending degeneration could be found.¹ A degenerated centre can of course no longer give rise to its old feelings; and where the centres are degenerated, that fact explains all-sufficiently why the lost member can no longer be felt. But it is impossible to range all the cases of non-feeling under this head. Some of them date from the first hours after the operation, when degeneration is out of the question. In some the perceptive centres are proved to be there by exciting electrically the nerve-trunks buried in the stump. "I recently faradized," says Dr. Mitchell, "a case of disarticulated shoulder without warning my patient of the possible result. For two years he had altogether ceased to feel the limb. As the current affected the brachial plexus of nerves he suddenly cried aloud, 'Oh the hand,—the hand!' and attempted to seize the missing member. The phantom I had conjured up swiftly disappeared, but no spirit could have more amazed the man, so real did it seem."²

In such a case as this last, the only hypothesis that remains to us is to suppose that the nerve-ends are so softly embedded in the stump as, under ordinary conditions, to carry up no impressions to the brain, or none strong enough to be noticeable. Were they carried, the patient would feel, and feel

¹ François-Franck: *Leçons sur les Fonctions Motrices du Cerveau*, 1887, p. 291.

² *Op. cit.*, p. 349.

a foot. Not feeling the foot, and yet being capable of feeling it (as the faradization proves), it must be either that no impressions are carried, or else that for some reason they do not appeal to consciousness. Now it is a general law of consciousness that feelings of which we make no practicable use tend to become more and more overlooked. Helmholtz has explained our habitual insensibility to double images, to the so-called *muscæ volitantes* caused by specks in the humors of the eye, to the upper harmonics which accompany various sounds, as so many effects of the persistent abstraction of our attention from impressions which are of no use. It may be that in certain subjects this sort of abstraction is able to complete our oblivescence of a lost foot; our feeling of it has been already reduced almost to the vanishing point, by reason of the shielded condition of the nerve-ends, just assigned. The feeling of the lost foot tells us absolutely nothing which can practically be of use to us.¹ It is a superfluous item in our conscious baggage. Why may it not be that some of us are able to cast it out of our mind on that account? Until a few years ago all oculists believed that a similar superfluity, namely, the second set of images seen by the squinting eye in squinters, was cast out of consciousness so persistently that the eye grew actually blind. And, although the competency of the explanation has probably been disproved as regards the blind-

¹ Except the approach of storms; but then it is in cases where the feeling is preserved.

ness, yet there is no doubt that it is quite competent to prove an almost invincible *unconsciousness* of the images cast upon a squinting eye.

Unconsciousness from habitual inattention is, then, probably one factor in the oblivescence of lost extremities,—a factor which, however, we must regard as unavailing where impressions from the nerve-ends are strong.¹

Let us next consider the differences in regard to the illusion of voluntary movement in the lost parts. Most of the patients who seem to themselves able to move their lost feet, hands, etc., at will, produce a distinct contraction of the muscles of the stump whenever they make the voluntary effort. As the principle of specific energies easily accounted for the consciousness of the lost limb being there at all, so here another principle, almost as universally adopted by psychologists, accounts as easily for the consciousness of movement in it, and leaves the real

¹ I have quoted my hundred and forty-odd patients as feeling their lost member, as if they all felt it *positively*. But many of those who say they feel it seem to feel it *dubiously*. Either they only feel it occasionally, or only when it pains them, or only when they try to move it; or they only feel it when they "think a good deal about it" and make an effort to conjure it up. When they "grow inattentive," the feeling "flies back," or "jumps back to the stump." Every degree of consciousness, from complete and permanent hallucination, down to something hardly distinguishable from ordinary fancy, seems represented in the sense of the missing extremity which these patients say they have. Indeed I have seldom seen a more plausible lot of evidence for the view that imagination and sensation are but differences of vividness in an identical process, than these confessions, taking them altogether, contain. Many patients say they can hardly tell whether they feel or fancy the limb.

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puzzle to reside rather in those cases in which the illusion of movement fails to exist.

The principle I refer to is that of the inheritance of ancestral habit. It is all but unanimously admitted at the present day that any two experiences, which during ancestral generations have been invariably coupled together, will have become so indissolubly associated that the descendant will not be able to represent them in his mind apart. Now of all possible coupled experiences it is hard to imagine any pair more uniformly and incessantly coupled than the feeling of effected contraction of muscles, on the one hand, and that of the changed position of the parts which they move, on the other. From the earliest ancestors of ours which had feet, down to the present day, the movement of the feet must always have accompanied the contraction of the muscles; and here, if anywhere, habit's hereditary consequences ought to be found, if the principle that habits are transmitted from one generation to another is sound at all.¹ No sooner then should the brain-centres for perceiving muscular contractions be excited, than those other centres functionally consolidated with them ought to share the excitement, and produce a consciousness that the foot

¹ In saying that if it is sound, then the explanation which I offer follows, I wish to retain reserved rights as to the general question of its soundness, regarding which evidence seems to me as yet somewhat incomplete. But the explanation which I offer could base itself on the invariable associations of the individual's experience, even if the hereditary transmission of habitual associations proved not to be a law of nature.

has moved. If it be objected to this that this latter consciousness ought to be ideal rather than sensational in character, and ought therefore not to produce a fully developed illusion, it is sufficient to point to what happens in many illusions of the same type. In these illusions the mind, sensibly impressed by what seems a part of a certain probable fact, forthwith *perceives* that fact in its entirety. The parts supplied by the mind are in these cases no whit inferior in vividness and reality to those actually impressing the sense.¹ In all perception, indeed, but half of the object comes from without. The larger half usually comes out of our own head. We can ourselves produce an illusion of movement similar to those which we are studying by putting some unyielding substance (hard rubber, *e.g.*) between our back teeth and biting hard. It is difficult not to believe that our front teeth approach each other, when we feel our biting muscles contract.² In

¹ They are vivid and real in proportion to the inveterateness of their association with the parts which impress the sense. The most perfect illusions are those of false motion, relief, or concavity, changed size, distance, etc., produced when, by artificial means, an object gives us sensations, or forces us to move our eyes in ways ordinarily suggestive of the presence of an entirely different object. We *see* then the latter object directly although it is not there. The after-image of a rectangular cross, of a circle, change their shapes when we project them on to an oblique surface; and the new shape, which is demonstrably a reproduction of earlier sense-impressions, feels just like a present sense-impression.

² See for another example Sternberg, in Pfüger's *Archiv*, Bd. 37, S. 1. The author even goes so far as to lay down as a general rule that we ordinarily judge a movement to be executed as soon as we have given the impulse.

ourselves the feeling of the real position of the jaws persists unchanged to contradict the false suggestion. But when we recall that in the amputated no such positive contradiction can occur, since the parts are gone, we see how much easier it must be in their case for the false sense of movement to flourish unchecked.¹

But how, then, comes it that there can be any patients who lack the false sense in question? In one hundred and forty of my cases, about fifty lacked it completely; and even when the stump-muscles contract violently, many patients are unable to feel any change at all in the position of the imaginary extremity. This is not due to the fact that the amputation is made above the origin of the hand-or-foot-moving muscles; for there are eleven cases where these muscles remain and contract, but yet no sense of movement exists. I must say that I can offer no clear solution of this anomaly. It must be left over, together with those obstinate

¹ Out of the ninety-eight of my cases who feel their limbs to move, there are forty-three who can produce no feeling of movement in the lost extremity without visibly contracting the muscles of the stump. But (leaving out doubtful cases) twelve of the others positively affirm that, after the most careful examination, no contractions can be detected in the stump, whilst yet the extremity seems to move at will. One such case I observed myself. The man had an amputation of the upper arm. He seemed to himself to flex his fingers at will; but I could perceive no change whatever in the stump. The thought of the movement seemed here a sufficient suggestion; as in those anæsthetic cases where the patient thinks of a movement and wills it, and then (if his eyes are closed) fancies it executed, even though the limb be held still by the bystanders.

cases of partial apparent shortening of which we spoke above, for future investigators to treat.

One reflection, however, seems pertinent to the entire set of phenomena we have studied. They form a group in which the variations from one individual to another, if they exist at all, are likely to become extreme. Darwin notices that no organs in animals are so subject to variation as rudimentary organs. Being functionless, selection has no hold on them, the environment exerts no influence to keep them up (or down) to the proper standard, and the consequence is that their aberrations are unchecked. Now phantasms of lost legs and arms are to the mental organism just what rudimentary organs are to the bodily organism. They have no longer any real relations with the environment, being mere vestiges of something which formerly had real relations. The environment does not correct such a phantasm for any odd course it may get into. If it slips away altogether, the environment lets it go, and doesn't call it back. If it happen "by accident" to harden itself in a fixed position, or shorten itself, or to dissolve connection with its ancestral associates in the way of muscular feeling, the accident is not repaired; and experience, which throughout the rest of our mental life puts prompt bounds to too great eccentricity, here lets it luxuriate unrebuked. I do not know how far one ought to push this idea. But (what we can call by no better name but) accident or idiosyncrasy certainly plays a great part in all our neural and mental processes,

especially the higher ones. We can never seek among these processes for results which shall be invariable. Exceptions remain to every empirical law of our mental life, and can only be treated as so many individual aberrations. It is perhaps something to have pointed out the department of lost-limb-consciousness as that in which the aberrant individuals are likely to reach their maximum number.

The apparent changes of temperature of the lost parts form an interesting chapter, which, however, I will not discuss. Suffice it to say, that in many patients the lost foot can be made to feel warm or cold by warming or cooling the stump. A draught of air on the stump produces the feeling of a draught on the foot. The lost foot also sympathizes sometimes with the foot which remains. If one is cold, the other feels cold. One man writes that whenever he walks through puddles and wets his sound foot, his lost foot feels wet too.

My final observations are on a matter which ought to interest students of "psychic research." Surely if there be any distant material object with which a man might be supposed to have clairvoyant or telepathic relations, that object ought to be his own cut-off arm or leg. Accordingly, a very wide-spread belief will have it, that when the cut-off limb is maltreated in any way, the man, no matter where he is, will feel the injury. I have nearly a score of communications on this point, some believing, more incredulous. One man tells of experiments of warming, etc., which the doctor in an adjoining room

made on the freshly cut-off leg, without his knowledge, and of which his feelings gave him no suspicion. Of course, did such telepathic *rapport* exist, it need not necessarily be found in every case. But in none of the cases of my collection in which the writers seek to prove it does their conclusion inspire confidence. All (with perhaps one exception which, unfortunately, I have lost) are vaguely told; and, indeed, among all the pains which come and go in the first weeks of amputation, it would be strange if some did not coincide with events happening to the buried or "pickled" limb. One man writes me that he has dug up his buried leg eight times, and changed its position. He asks me to advise him whether to dig it up again, saying he "dreads to."

In concluding, I repeat that I have been able to throw no new light of a positive sort on those individual differences, the explanation of which was the aim of my inquiry. I have, perhaps, by invoking certain well-known principles, succeeded in making the fundamental illusions, that of the existence, and that of the movement of the lost part, seem less paradoxical, and the exceptions to these illusions less odd than they have hitherto appeared. But, on the whole, I leave the subject where I took it up from Dr. Weir Mitchell's hands; and one of the main effects of the investigation on my own mind is admiration for the manner in which he wrote about it fifteen years ago.

XVIII

RÉPONSE AUX REMARQUES DE M. RENOUVIER, SUR SA THÉORIE DE LA VOLONTÉ¹

[1888]

Cher monsieur,—

Je suis extrêmement sensible à l'honneur grand et peu mérité que vous m'avez fait en présentant au public français mon petit article sur la volonté, et en le faisant suivre d'un commentaire si flatteur. Je suis cependant un si pauvre faiseur de phrases que je n'essaierai pas d'exprimer ma gratitude; je vous prierai simplement de m'accorder une page ou deux de votre revue pour des explications à donner au sujet de vos *Remarques*. Je serai aussi bref que je le pourrai.

[¹Reprinted from *La Critique Philosophique*, 1888, nouv. série, 4me année, 2, 401-404. Renouvier's "Remarks" appeared in *ibid.*, pp. 117-126, and were occasioned by the publication of a translation of James's "What the Will Effects" (1888) in *ibid.*, 1, 401-420. For James's acknowledgment of Lotze's priority in this subject, *cf.* also the *Principles* (1890), II, 523, note. The following note was appended to the title by the Editor of *La Critique Philosophique*: "Voyez les numéros 6 et 8 de la *Critique philosophique* de la présente année.—L'insertion de l'aimable et intéressante lettre de M. William James a été retardée par le désir que nous avons eu d'y joindre une traduction des passages importants signalés par ce dernier dans la *Medicinische psychologie* de Lotze." The passages referred to are published in the same issue of *La Critique Philosophique*, and are accompanied by "Quelques mots sur la lettre qui précède," by Renouvier. Ed.]

Premièrement, en ce qui concerne mon originalité, Lotze a été, autant que je sache, le premier à formuler clairement la relation entre représentation, volition et mouvement effectué. On trouvera les passages dans les §§ 266-7-8 de sa *Medicinische psychologie*, publiée en 1852. Votre propre formulation, qui n'est pas essentiellement plus profonde, à ce qu'il me semble, mais qui est beaucoup plus explicite, a été publiée sept ans plus tard, mais obtenue d'une manière indépendante. Mes propres idées se sont formées bien postérieurement, par la lecture et de votre ouvrage et de celui de Lotze; de sorte que je n'ai sur ce point ni indépendance ni originalité quelconque.

Secondement, touchant l'*espèce* de représentation d'un mouvement à laquelle le mouvement actuel fait suite, je m'en suis expliqué, dans mon article, comme si elle devait se composer des souvenirs des sensations *internes* engendrées par les mouvements passés dans les parties mouvantes elles-mêmes. Mon article, ayant été écrit pour un recueil populaire, a dû être simplifié outre mesure, comme de coutume en pareil cas; et, dans ce cas-ci, j'ai pris une des espèces de l'idée motrice pour tenir la place du genre tout entier. Vous avez absolument raison de protester contre cette vue étroite. Il est certain, ainsi que vous y insistez, que le dernier phénomène psychique qui précède un mouvement peut être et est souvent une image des effets *externes* du mouvement sur l'œil, l'oreille ou quelque partie éloignée du corps. Nos mouvements volontaires de vocalisation

paraissent être instigués par des images acoustiques. Ceux des mouvements de nos membres qui nous sont le plus habituels sont dus ordinairement à des images optiques. Lorsque je désire tout d'un coup toucher du doigt un point dans l'espace, j'ai plus fortement conscience de l'endroit (*of where*) où la place de ce point paraît être, à mon œil, que de la manière (*of how*) dont mon bras et ma main doivent sentir quand je le touche. On pourrait objecter qu'il y a des faits ici qui échappent à notre conscience introspective; qu'une image tactile des sensations internes attendues dans le membre doit intervenir entre l'image optique de cette place et le mouvement exécuté; mais que cette image tactile est si rapidement supplantée par les sensations internes actuelles, pendant que le mouvement s'effectue, que nous manquons à en prendre connaissance comme d'un phénomène indépendant. Ceci est une hypothèse qui mérite considération; elle doit avoir un résultat expérimentalement vérifiable. Si une personne à laquelle un signal est donné fait un mouvement qui laisse une marque sur un appareil chronographique, elle obtient une mesure de ce qu'on appelle le "temps physiologique" de ce mouvement particulier. Or, si l'on compare deux mouvements (semblables d'ailleurs) dont l'un est représenté d'avance pour nous en termes optiques, ou "externes," l'autre en termes tactiles, ou "internes," le premier doit avoir le temps physiologique le plus long, dans la théorie que nous discutons, parce que la suggestion rapide qu'elle sup-

pose de l'image tactile est un événement auquel rien ne correspond dans le cas où la représentation est consciemment tactile dès le début. Je me suis occupé quelque temps, il y a plusieurs années, d'exécuter des mesures comparatives de ce genre. Je regrette de dire qu'il ne m'a pas été possible de découvrir une forme d'expérience assez affranchie de complications secondaires pour me donner des résultats utilisables.

Toutefois, je dirai que je n'ai trouvé aucune raison de soupçonner que le temps fût allongé lorsque l'idée motrice était optique ; non plus que l'attention introspective que j'ai dû alors accorder à l'opération n'a tendu à me confirmer dans l'idée qu'une image tactile latente y intervient toujours. Loin de là, c'est alors que pour la première fois je me suis mis fortement à douter de cette idée.

Pendant ce temps, mon collègue le professeur Bowditch a fait avec le docteur Southard des expériences qui semblent montrer que, quelquefois au moins, il n'intervient aucune image tactile. Ces physiologistes ont trouvé qu'ils pouvaient, les yeux fermés, toucher *avec plus de précision* un point marqué sur la table, lorsqu'ils l'avaient simplement *regardé* que lorsqu'ils l'avaient simplement *touché* un moment auparavant. Pour le docteur S. l'erreur moyenne, avec le toucher, était de 17 millimètres contre 12 millimètres avec le vue.¹ Il est certain qu'ici une rapide image tactile ne pouvait s'être

¹ Ce travail a été publié dans le *Journal of Physiology*, Vol. III., No. 3.

placée comme moyen de passage entre l'image optique et la décharge motrice. Comment la physiologie du cerveau s'accommodera de ces faits, c'est une question qui regarde les physiologistes; ils devront dans tous les cas admettre que le procès idéationnel qui précède immédiatement et provoque un procès moteur peut quelquefois être un procès d'imagination optique.

Troisièmement, je voudrais dire un mot de ma réduction de toutes les actions psychiques au type réflexe. Je ne suis pas sûr que, quand j'affirme et que vous niez, nous prêtions aux mêmes mots les mêmes significations. J'entends, pour le faire bref, que l'objet de la pensée, à tout instant donné, fait partie d'une chaîne d'objets successivement suggérés qui peuvent être suivis, en remontant, jusqu'à quelque sensation reçue, et qui se termineront tôt ou tard à quelque modification de notre mouvement. Par exemple, mes pensées présentes peuvent être suivies, en remontant, jusqu'à l'impression causée dernièrement sur ma rétine par vos paroles imprimées, et se déchargent, en ce moment même, en des mouvements de mes doigts qui tiennent la plume. La succession de nos objets mentaux est, je le crois fermement, expliquée par le fait physiologique qu'un procès cérébral en éveille un autre, suivant des voies en partie organisées par une formation interne, et en partie tracées par l'expérience organisée par une formation interne, et en partie tracées par l'expérience externe;—expliquée, dis-je, en ce sens que nous ne pouvons avoir un objet,

duquel ces voies ne soient la condition de *possibilité*. Mais cette dépendance par rapport à des voies matérielles, pour la possibilité de nos objets, n'implique pas nécessairement que la succession de ces derniers soit entièrement déterminée par des lois matérielles. On n'a simplement qu'à admettre que la conscience qui accompagne les procès matériels peut réagir de telle manière qu'elle ajoute à volonté à l'intensité ou à la durée de certains procès particuliers; un champ de *sélection* s'ouvre aussitôt, qui nous mène bien loin de la détermination mécanique. Un procès appuyé et accentué par la conscience éveillera ses propres associés et produira ses conséquences, à l'exclusion des autres, et l'enchaînement des pensées prendra de la sorte une forme entièrement différente de celle qu'elle aurait pu prendre si la conscience n'eût été là avec son efficacité. Soit qu'il existe ou non une volonté-force, avec des variations indépendantes, il me semble qu'un parfait *théâtre pour son activité* est fourni par un système de voies dans lesquelles des courants se meuvent et produisent des tensions et des décharges. La force indépendante n'a besoin que d'altérer par augmentation ou par diminution la tension donnée en un point, pour changer entièrement la résultante en direction de la décharge. Tout ce que notre libre vouloir peut légitimement revendiquer, c'est de disposer de possibilités qui nous sont offertes en manière d'alternatives par le flux mécanique des choses. J'espère qu'en ce sens-là, vous ne verrez nulle objection à

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étendre la notion de l'action réflexe à notre vie supérieure. Si librement qu'un acte puisse se produire, sa suggestion première est certainement due à des courants réflexes, et des courants réflexes sont ce qui le rend actuel. L'action régulatrice de tels courants par la volonté ne peut être autre chose qu'une sélection de certains d'entre eux, déjà tout près d'être un peu plus forts que les autres.

Croyez-moi, cher monsieur, etc.

WILLIAM JAMES.

Cambridge (Mass.) U. S. of A., 23 septembre 1888.

XIX

THE PSYCHOLOGICAL THEORY OF EXTENSION¹

[1889]

SINCE even the worm will "turn," the space-theorist can hardly be expected to remain motionless when his Editor stirs him up. Had I seen my July *Mind* earlier than I did, these remarks would have been in time for the October number. Appearing in January, I can only hope that the reader may not regard them as reviving an issue that is stale. The Editor, in his observations on "The Psychological Theory of Extension" in No. 51, made, as it seems to me, some *admissions* that ought to be recorded, as well as some *assumptions* that ought to be questioned, in the interests of clear thinking in this dark field. One admission (if I rightly understand page 420) amounts to nothing less than giving up the whole positive and constructive part of the Brown-Bain-Spencer-Mill theory of space-perception, and confessing that the criticisms usually made upon it are fatal. That theory con-

[¹ Reprinted from *Mind*, 1889, 14, 107-109. Written in reply to a criticism by G. C. Robertson, the Editor, in *Mind*, 1888, 13, 418-424, of James's articles on "The Perception of Space," *ibid.*, 1887. The present paper is a part of a general discussion provoked by Robertson's criticism, and participated in by James Ward, among others. Ed.]

tends that a variety of intensive elements can, by grouping [association] assume in consciousness the appearance of an extended order. "How is the transformation to be effected? or rather, can it in any way be effected?" asks the Editor. "I do not know that it can," he replies, "if sought for upon that line." As the account of space-perception by these authors is usually reckoned one of the greatest triumphs of the Analytic School of Psychology, this defection, by a writer whose general tendencies are loyal to the school, is worthy of emphatic notice. The Editor's second admission is, that, if we could suppose ourselves reduced to the eye with its exploratory movements as our sole and only means of constructing a spatial order, such a construction might come to pass (p. 424)—an admission quite at variance with the widely prevalent notion that analytic psychology has proved the space-perceptions of the eye to be but reproduced experiences of touch and locomotion. So many doctrines reign by the mere inertia of supposed authority, that when, as in these two points, the chain of authority gets broken, public attention should be drawn to the fact.

The chief *assumption* of the Editor's which I wish to question is his proposition that, although experiences of an intensive order will not by *themselves* acquire the extensive character, they will yet, if so experienced as to be referred to an *object* (in the sense of "bare obstacle to muscular activity of a touching organ"), begin to assume that character. If we construe this view definitely, everything about

it seems to me questionable. Either the obstacle feels big originally or it does not. If it have originally no bigness, the same difficulty arises which the Editor admits to be fatal to ordinary theory: how can intensive elements be transformed into an extensive result? If, on the contrary, the obstacle have a sensible bigness, then, of course, that would explain how the touch of it, the look of it, or any other sensation which the mind incorporates in it, should share the bigness and appear itself extended. But then the question would arise—Why on earth should this feeling of muscular resistance be the only one which originally comes to us with a bigness? What grounds *a posteriori* or *a priori* can we show for assigning to it so pre-eminent an advantage, in the teeth of all the spontaneous appearances, which make us feel as if the blueness of the sky were spread out in itself, and as if the rolling of the thunder or the soreness of an abscess were intrinsically great? But the Editor keeps his whole account so studiously and cautiously vague that I confess I find it hard to construe his obstacle-object as definitely as this. It must, he says, not be treated as external “at the outset,” for the mere experience of resisted muscular activity is analysable into elements “which are found to be merely intensive—intensity of passive touch varying with intensity of effort” (p. 421). Nevertheless touch and effort are so related as to “suggest a cleft in conscious experience, which has but to be widened and defined for the opposition of self and not-self to be established.”

It is when referred to the "not-self" of the experience thus defined that the originally intensive qualities of touch, look, sound, etc., begin, according to the Editor, to appear extended, and finally become more definitely extended in proportion as the resisting body gets more definitely to seem external.

Such accounts, however vaguely expressed, are indubitably true, if one goes far enough back in time. Since things are perceived later which were not perceived earlier, it is certain *a priori* that there was a moment when the perception of them began; and we are, therefore, sure in advance, of being right, if we say of any perception that first it didn't exist, and that then there was a mere suggestion and nascency of it, which grew more definite, until, at last, the thing was fully established. The only merit of such statements lies in getting them historically exact, and in determining the very moment at which each successive element of the final fact came in. Science can never *explain the qualities* of the successive elements, if they show new qualities, appearing then for the first time. It can only name the moment and conditions of their appearance, and its whole problem is to name these aright. Now, we probably all agree that the *condition* of our perceiving the quality of bigness, the extensive quality, in any sensible thing is some peculiar process in our brain at the moment. But whereas, in the articles which the Editor criticises, I maintained that the *moment* is the very first moment in which we get a sensation of any sort whatever, the Editor con-

tends possibly that it is the first time we have the feeling of resisted muscular effort, but more probably (as I read his text) that it is much later in the day, after many sensations, all purely "intensive," have come and gone. In my articles I have given (with probably far too great prolixity) the grounds for the date which I assign, and criticised the grounds given by Wundt and Helmholtz for the later one which they prefer. I miss in the Editor's remarks (as in all English writings upholding the same view) any attempt at explicit proof that the earlier date is impossible, and that sensations cannot come with any apparent bigness when they first appear. May not the supposed impossibility be rather an assumption and a prejudice, due to uncriticised tradition? If there be definite reasons for it in the Editor's mind, I hope sincerely that he will publish them without delay. But if, on the contrary, a mere dim bigness *can* appear in all our first sensations, then the date of its appearance is most probably then; for discriminations, associations, and selections among the various bignesses, occurring later on, will perfectly explain (as I have tried to show) how the definitive perception of real outer space and of the bodies in it grows up in the mind. Eye-experience, touch-experience, and muscular experience go on abreast in this evolution, and their several objects grow intimately identified with each other. But I fail to see in this fact any reason for that *dependence* of the visual space-feelings "on a tactile base," such as my critic in his last paragraph

seems to find. One who asks a blind person to compare pasteboard angles and the directions of their sides with each other, and who observes the extraordinary inferiority of his tactile perceptions to our visual ones, will be very loath to believe that the latter have the former for their base.

I am at a loss to know who the Editor means by the theorists ("space-theorists generally," he calls them) who commit the mistake of "seeking for an extension that is extension of nothing at all." Certainly this mistake cannot be imputed to anyone who, like myself, holds extension to be coeval with sensation. The matter of the sensation must always be there to fill the extension felt. The extension is of the warmth, the noise, the blue luminosity, the contact, the muscular mass contracting, or whatever else the phenomenon may be.

Still other points do I find obscure in the Editor's remarks—obscure, I am sure, from no other reason but the brevity to which he has confined them. May he be enabled soon to set them forth at fairer length!

XX

A PLEA FOR PSYCHOLOGY AS A "NATURAL SCIENCE"¹

[1892]

IN the first number of this journal, Professor Ladd takes my *Principles of Psychology* as a text for certain critical reflections upon the cerebralistic point of view which is becoming so popular in psychology to-day. I appreciate fully the kind personal tone of the article, and I admit that many of the thrusts strike home, though it shocks me a bit, I confess, to find that in some particulars my volumes have given my critic so false an impression of my beliefs. I have never claimed, for instance, as Professor Ladd seems to think I claim, that psychology as it stands to-day is a natural science, or in an exact way a science at all. Psychology, indeed, is to-day hardly more than what physics was before Galileo, what chemistry was before Lavoisier. It is a mass of phenomenal description, gossip, and myth, including, however, real material enough to justify one in the hope that with judgment and good-will on the part of those interested, its study

[¹ Reprinted from *Philosophical Review*, 1892, 1, 146-153. Occasioned by an article by G. T. Ladd, entitled "Psychology as so-called 'Natural Science,'" *ibid.*, pp. 24-53, in which the writer criticises James's *Principles* (1890). Ed.]

may be so organized even now as to become worthy of the name of natural science at no very distant day. I hoped that my book would leave on my readers an impression somewhat like this of my own state of mind. I wished, by treating Psychology *like* a natural science, to help her to become one. But what one book may have said or not said is a matter of small moment. My two volumes are doubtless uncouth enough; and since Professor Ladd wrote his article my general position has probably been made more clear in the abridgment of them, which Messrs. Holt & Co. have recently published under the name of "Psychology: Briefer Course."¹ Let us drop the wearisome book, therefore, and turn to the question itself, for that is what we all have most at heart. What may one lawfully mean by saying that Psychology ought to be treated after the fashion of a "natural science"? I think that I can state what I mean; and I even hope that I can enlist the sympathy of men like Professor Ladd in the cause, when once the argument is fairly set forth.

What is a natural science, to begin with? It is a mere fragment of truth broken out from the whole mass of it for the sake of practical effectiveness exclusively. *Divide et impera*. Every special science, in order to get at its own particulars at all, must make a number of convenient assumptions and decline to be responsible for questions which the human mind will continue to ask about them. Thus

¹ See especially the chapters headed "Introductory" and "Epilogue."

physics assumes a material world, but never tries to show how our experience of such a world is "possible." It assumes the inter-action of bodies, and the completion by them of continuous changes, without pretending to know how such results can be. Between the things thus assumed, now, the various sciences find definite "laws" of sequence; and so are enabled to furnish general Philosophy with materials properly shaped and simplified for her ulterior tasks. If, therefore, psychology is ever to conform to the type of the other natural sciences, it must also renounce certain ultimate solutions, and place itself on the usual common-sense basis by uncritically begging such data as the existence of a physical world, of states of mind, and of the fact that these latter take cognizance of other things. What the "physical world" may be in itself, how "states of mind" can exist at all, and exactly what "taking cognizance" may imply, are inevitable further questions; but they are questions of the kind for which general philosophy, not natural science, is held responsible.

Now if there is any natural science in possession of a subject-matter well set off and contrasted with all others, it is psychology. However much our self-consciousness, our freedom, our ability to conceive universals, or what not, may ally us with the Infinite and Absolute, there is yet an aspect of our being, even of our mental being, which falls wholly within the sphere of natural history. As constituting the inner life of individual persons who are born

and die, our conscious states are temporal *events* arising in the ordinary course of nature,—events, moreover, the conditions of whose happening or non-happening from one moment to another, lie certainly in large part in the physical world. Not only this; they are events of such tremendous practical moment to us that the control of these conditions on a large scale would be an achievement compared with which the control of the rest of physical nature would appear comparatively insignificant. All natural sciences aim at practical prediction and control, and in none of them is this more the case than in psychology to-day. We live surrounded by an enormous body of persons who are most definitely interested in the control of states of mind, and incessantly craving for a sort of psychological science which will teach them how to *act*. What every educator, every jail-warden, every doctor, every clergyman, every asylum-superintendent, asks of psychology is practical rules. Such men care little or nothing about the ultimate philosophic grounds of mental phenomena, but they do care immensely about improving the ideas, dispositions, and conduct of the particular individuals in their charge.

Now out of what may be called the biological study of human nature there has at last been precipitated a very important mass of material strung on a guiding conception which already to some degree meets these persons' needs. The brain-path theory based on reflex action, the conception of the human individual as an organized mass of tenden-

cies to react mentally and muscularly on his environment in ways which may be either preservative or destructive, not only helps them to analyze their cases, but often leads them to the right remedy when perversion has set in. How much more this conception may yet help them these men do not know, but they indulge great hopes. Together with the physiologists and naturalists they already form a band of workers, full of enthusiasm and confidence in each other, and are pouring in materials about human nature so copious that the entire working life of a student may easily go to keeping abreast of the tide. The "psychical researchers," though kept at present somewhat out in the cold, will inevitably conquer the recognition which their labors also deserve, and will make, perhaps, the most important contributions of all to the pile. But, as I just remarked, few of these persons have any aptitude or fondness for general philosophy; they have quite as little as the pure-blooded philosophers have for discovering particular facts.

The actual existence of two utterly distinct types of mind, with their distinct needs, both of them having legitimate business to transact with psychology, must then be recognized; and the only question there can be is the practical one of how to distribute the labor so as to waste it least and get the most efficient results. For my part, I yield to no man in my expectations of what general philosophy will some day do in helping us to rational conceptions of the world. But when I look abroad and see how

almost all the fresh life that has come into psychology of recent years has come from the biologists, doctors, and psychical researchers, I feel as if their impulse to constitute the science in their own way, as a branch of biology, were an unsafe one to thwart; and that wisdom lies, not in forcing the consideration of the more metaphysical aspects of human consciousness upon them, but, on the contrary, in carefully rescuing these aspects from their hands, and handing them over to those of the specialists in philosophy, where the metaphysical aspects of physics are already allowed to belong. If there could be, after sufficient ventilation of the subject, a generally expressed consent as to the kind of problems in psychology that were metaphysical and the kind that were analogous to those of the natural sciences, and if the word "psychology" could then be restricted so as to cover as much as possible the latter and not the former problems, a psychology so understood might be safely handed over to the keeping of the men of facts, of the laboratory workers and biologists. We certainly need something more radical than the old division into "rational" and "empirical" psychology, both to be treated by the same writer between the covers of the same book. We need a fair and square and explicit *abandonment* of such questions as that of the soul, the transcendental ego, the fusion of ideas or particles of mind stuff, etc., by the practical man; and a fair and square determination on the part of the philosophers to keep such questions out

of psychology and treat them only in their widest possible connections, amongst the objects of an ultimate critical review of all the elements of the world.

Prof. Andrew Seth has put the thing excellently in his late inaugural address at Edinburgh, on the Present Position of the Philosophical Sciences.¹ "Psychology," he says, "has become more scientific, and has thereby become more conscious of her own aims, and at the same time, of her necessary limitations. *Ceasing to put herself forward as philosophy*, she has entered upon a new period of development as science; and, in doing so, she has disarmed the jealousy, and is even fast conquering the indifference, of the transcendental philosopher." Why should not Professor Ladd, why should not any "transcendental philosopher," be glad to help confirm and develop so beneficial a tendency as this? In Professor Ladd's own book on *Physiological Psychology*, that "real being, proceeding to unfold powers that are *sui generis*, according to laws of its own," for whose recognition he contends, plays no organic part in the work,² and has proved a mere

¹ Blackwood, 1891.

² I mean that such a being is quite barren of particular consequences. Its character is only known by its reactions on the signals which the nervous system gives, and these must be gathered by observation after the fact. If only it were subject to successive reincarnations, as the theosophists say it is, so that we might guess what sort of a body it would unite with next, or what sort of persons it had helped to constitute previously, those would be great points gained. But even those gains are denied us; and the real being is, for practical purposes, an entire superfluity, which a *practical* psychology can perfectly well do without.

stumbling-block to his biological reviewers. Why force it on their attention, and perpetuate thereby a force it on their attention, and perpetuate thereby a sort of wrangle from which physics and chemistry have long since emerged, and from which psychology, if left to the "facts of experience" alone, promises so soon to escape?

Now the sort of "fact of experience" on which in my book I have proposed to compromise, is the so-called "mental state," in whose existence not only common men but philosophers have uniformly believed. Whatever conclusions an ultimate criticism may come to about mental states, they form a practically admitted sort of object whose habits of co-existence and succession and relations with organic conditions form an entirely definite subject of research. Cannot philosophers and biologists both become "psychologists" on this common basis? Cannot both forego ulterior inquiries, and agree that, provisionally at least, the mental state shall be the ultimate datum so far as "psychology" cares to go? If the "scientific monists" would only agree to say nothing of the states being produced by the integration and differentiation of "psychic units," and the "transcendental metaphysicians" agree to say nothing of their being acts of spiritual entities developing according to laws of their own, peace might long reign, and an enormous booty of natural laws be harvested in with comparatively no time or energy lost in recrimination and dispute about first principles. My own volumes are indeed full of such recrimination and dispute, but these unfortunate

episodes are for the most part incidental to the attempt to get the undivided "mental state" once for all accepted by my colleagues as the fundamental datum for their science. To have proposed such a useful basis for united action in psychology is in my own eyes the chief originality and service of the book; and I cannot help hoping that Professor Ladd may himself yet feel the force of the considerations now urged. Not that to-day we *have* a "science" of the correlation of mental states with brain states; but that the ascertainment of the laws of such correlation forms the *programme* of a science well limited and defined. Of course, when such a science is formed, the whole body of its conclusions will fall a prey to philosophical reflection, and then Professor Ladd's "real being" will inevitably have the best possible chance to come to its rights.

One great reason why Professor Ladd cares so little about setting up psychology as a natural science of the correlations of mental with cerebral events, is that brain states are such desperately inaccessible things. I fully admit that any *exact* account of brain states is at present far beyond our reach; and I am surprised that Professor Ladd should have read into my pages the opinion that psychology as a natural science must aim at an account of brain states exclusively, as the correlates of states of mind. Our mental states are correlated *immediately* with brain states, it is true; but, more remotely, they are correlated with many other physical events, peripheral nerve currents for example,

and the physical stimuli which occasion these. Of these latter correlations we have an extensive body of rather orderly knowledge. And, after all, may we not exaggerate the degree of our ignorance of brain states themselves? We don't know exactly what a nerve current is, it is true; but we know a good deal *about* it. We know that it follows a path, for instance, and consumes a fraction of a second of time in doing so. We know that, physically considered, our brain is only a mass of such paths, which incoming currents must somehow make their way through before they run out. We even know something about the consciousness with which particular paths are specially "correlated," those in the occipital lobes, *e.g.*, being connected with the consciousness of *visible* things. Now the provisional value of such knowledge as this, however inexact it be, is still immense. It sketches an entire programme of investigation, and defines already one great *kind* of law which will be ascertained. The *order in time* of the nerve currents, namely, is what determines the *order in time*, the coexistences and successions of the states of mind to which they are related. Professor Ladd probably does not doubt the nerve-current theory of motor habits; he probably does not doubt that our ability to learn things "by heart" is due to a capacity in the cerebral cortex for organizing definitely successive systems of paths of discharge. Does he then see any radical reason why the *special time-order* of the "ideas" in any case whatever of

"association" may not be analogously explained? And if not, may he not go on to admit that the most characteristic features of our faculty of memory,¹ of our perception of outer things,² of our liability to illusion,³ etc., are most plausibly and naturally explained by acquired organic habitudes, stamped by the order of impressions on the plastic matter of the brain? But if he will admit all this, then the diagrams of association-paths of which he preserves so low an opinion are not absolutely contemptible. They do represent the *sort* of thing which determines the order of our thoughts quite as well as those diagrams which chemists make of organic molecules represent the sort of thing which determines the order of substitution when new compounds are made.

It seems to me, finally, that a critic of cerebralism in psychology ought to do one of two things. He ought either to reject it in principle and entirely, but then be willing to throw over, for example, such results as the entire modern doctrine of aphasia—a very hard thing to do; or else he ought to accept it in principle, but then cordially admit that, in spite of present shortcomings, we have here an immense opening upon which a stable phenomenal science must some day appear. We needn't pretend

¹Such as the need of a "cue"; the advantages, for recall, of repetition and multiple association; the fact of obliviscence, etc.

²That the ideas of all the thing's attributes arise in the imagination, even when only a few of them are felt, etc.

³That, *e.g.*, the most *usual* (and therefore *probable*) associates of the present sensation are mentally imagined even when not actually there.

that we have the science already; but we can cheer those on who are working for its future, and clear metaphysical entanglements from their path. In short, we can aspire.

We never ought to doubt that Humanity will continue to produce all the types of thinker which she needs. I myself do not doubt of the "final perseverance" or success of the philosophers. Nevertheless, if the hard alternative were to arise of a choice between "theories" and "facts" in psychology, between a merely rational and a merely practical science of the mind, I do not see how any man could hesitate in his decision. The kind of psychology which could cure a case of melancholy, or charm a chronic insane delusion away, ought certainly to be preferred to the most seraphic insight into the nature of the soul. And that is the sort of psychology which the men who care little or nothing for ultimate rationality, the biologists, nerve-doctors, and psychical researchers, namely, are surely tending, whether we help them or not, to bring about.

XXI

THE ORIGINAL DATUM OF SPACE- CONSCIOUSNESS ¹

[1893]

UNDER this title Mr. E. Ford, in the last *Mind*, propounds to Mr. Ward and myself an alternative which he considers fatal to our doctrines of space-perception. May I make a reply to the criticism so far as it concerns my own view?

Mr. Ford says that "local signs" are "utterly inadequate to furnish a foundation for the perception of position." If "to furnish a foundation" mean "to explain," I entirely agree with our critic. The [term]² "local sign" has perhaps come to be abused in recent literature on the space-question. Lotze's original intent with it (if I am not mistaken) was rather negative than positive. He needed a term which would denote a numerically distinctive quality in each point of our sensitive surfaces, and yet which would not connote any positive explanation of the relative positions in which the objects perceived by the points appear arranged. But one now notices a tendency to use the term "local sign" as if it were

[¹ Reprinted from *Mind*, 1893, N.S. 2, 363-365. Written in reply to "The Original Datum of Space-Consciousness," by E. Ford, *ibid.*, 217-218. Ed.]

[² Substituted for "word." Ed.]

meant to cover some mysterious explanation. I am not sure that Mr. Ford does not take it in this way, for he assumes that Mr. Ward and I "deduce" or "develop" space from the local sign system. I, for one, certainly disclaim anything of the kind. By defending what I call a sensationalist theory of space-perception, I mean expressly to deny that we can logically or rationally deduce the features of the finished phenomenon. Its antecedents are physiological. Mr. Ford asks: "How much does the conception of extensity involve?" As a matter of *fact*, extensity involves all that comes out of it in the way of finished space-determinations. But as a mere *conception*, I do not see that extensity necessarily involves any exact system of points with their relations or distances, for we may empirically be conscious of spaces that are exceedingly confused and vague as to their inner content. This is especially marked in dozing and in recovery from syncope or anæsthesia. Neither, on the other hand, do any number of distinct feelings, susceptible of serial arrangement, such as "local signs" are assumed to be, necessarily "involve" extensity, for we find in every department of our sensibility feelings which, when we arrange them serially, never appear spread out before us in space. That certain organs give us sensations of extensity, and that parts of these organs contribute objects which when separately attended to appear definitely placed within the extensity, are facts which seem to me insusceptible of any logical explanation. All we can say is,

that these organs act in this way, and others do not.

Take, to illustrate, the cases of the eye and the ear. When we first hear a musical chord, it has a certain richness and volume, but no distinct parts are apprehended within it yet. By setting the attention in a certain way, however, we discern first one and then another of the notes. There is a quality in each note which identifies, individualises, and distinguishes it from the rest. Moreover, if we "compare" the notes, we feel a relation between them, which Professor Stumpf has well called their "distance." One pair have more distance between them than another, so that we can arrange them serially. In the case of the notes, however, no one would seriously pretend that the distance was a *sound*, like that of the notes themselves. Most people would call it a relation intellectually and not sensibly apprehended; and if asked *why* it is not sensibly perceived, would simply say that we have no sense-organ for such relations. Now the field of vision is both like and unlike the chord. It is something rich and voluminous, within which presently, by setting the attention, we discern first one and then another spot, and then, by comparing, define the distance between them. Only here the distance is a thing *seen*, and not a relation apprehended merely intellectually; for in the eye we have, as in the ear we have not, a sense-organ for such distances. Simultaneously with the spots, their distance is optically felt, the physiological condition of the feel-

ing being the excited retinal tract which stretches between the retinal points on which the spots fall.

But, says Mr. Ford, if the seen distance, or line, "is a feeling, what is the relation between this feeling and the two points which it connects? Our reply of course would be: That of 'besideness,' of local contact, which we consider must be postulated as a primary datum. We do not see what answer would be open to Mr. James."

To which I can only reply that the answer "primary datum" is as open to me as to Mr. Ford. That two seen things, when distinguished, appear "beside" each other, and that two heard things do not, seem to me two inexplicable facts. The usual explanation that we pass from the one seen thing to the other by a muscular "sweep," the feeling of which is absent in the case of the heard things, is quite inadequate; for (even if the facts were strictly true, which they are not) one does not see why the end of a muscular feeling *should* appear separated in space from its beginning any more than one sees why the beginning and end of a sound should *not* so appear. Nor can [the]¹ Mill's phrase of "mental chemistry" or Wundt's of psychic "synthesis" be held to have explanatory value. On the contrary, they but rename the mystery. Whatever the intrinsic character of the qualities known as local signs may be, if they are susceptible of serial gradation, they must appear more or less "distant" from each other, and some will appear next each other.

[¹ Apparently a misprint. Ed.]

But the distance will be space-distance, and the nextness will be "besideness," only when the whole system of qualities aroused together appears with spread-outness or extent. Serial position then becomes sensible and palpable as *place*. Behind this "ultimate fact" we cannot go.

When then Mr. Ford offers his final dilemma: "The local sign is either given as a relation or as a quality; if the former, the relation of position must be original and the development-theory is superfluous; if the latter, the theory fails," I can only say that I know of no development-theory for which I am responsible, for I never tried "to develop" either extensity or position out of local signs. The local sign is of course a quality, and one local sign by itself cannot be given as a relation. But that, when many local signs, or rather the sensitive organic points which correspond to them, are excited together, the objects tinged by the local signs appear *in* relation, and eke in relations of position, is a fact which no theory of mine ever attempted rationally to explain.

XXII

MR. BRADLEY ON IMMEDIATE RESEMBLANCE ¹

[1893]

MY agreement with Mr. Bradley that "the issue involved is one of very great and wide-reaching importance" must be my excuse for sending a word of comment on his paper in the January *Mind*. The text of his criticism is furnished by pp. 490-494, and 532-533 of Vol. I. of my work *The Principles of Psychology*, and the exact question is this: Is the "resemblance" which we predicate of two objects due in the last resort always to the operations on our mind of qualitatively identical elements contained in each? Or, may we, on the other hand, admit the existence, amongst our mind's objects, of qualities or natures which have no definite "point" in common, but which we perceive to be, although numerically distinct, yet *like* each other in various degrees and ways? We so often discover later the exact point of resemblance in two composite objects which first struck us by their likeness as vague

[¹ Reprinted from *Mind*, 1893, N.S. 2, 208-210. Written in reply to F. H. Bradley's "On Professor James's Doctrine of Simple Resemblance," *ibid.*, 83-88. This and the following discussion are referred to in *The Pluralistic Universe* (1909), p. 335, note. Ed.]

wholes, and we are so often able to name it as an identical portion in both, that the temptation to generalise lies very near; and we then say that there can nowhere be natures *immediately* like or unlike each other, and that every case of so-called similarity, even the simplest, must constitute a problem in analysis, which a higher discernment might solve. But since the higher discernment, methodically abandoned to this analytic quest, ought not to stop at any elements of which resemblance is simply affirmed (for the "point" of this resemblance must then also be sought), it is obvious that the problem can only lead to one of two conclusions, either to

(1) The postulation of point after point, encapsulated within each other *in infinitum*, as the constitutive condition of the resemblance of any two objects; or to

(2) A last kind of element (if one could then say "kind") of whose self-compoundings all the objects, and of whose diverse *numbers* in the objects, all the likeness and unlikeness in the world are made.

Of these two views of resemblance the former leads to a sort of Leibnitzian metaphysics, and the latter to what I call the Mind-dust theory.

My solution, or rather Stumpf's (for in my book I am but the humble follower of the eminent Munich psychologist), was to take neither of these objectionable alternatives, but (challenging the hasty hypothesis that composition must explain all) to admit

(3) That the last elements of things may differ variously, and that their "kinds" and bare unmedi-

ated resemblances and contrasts may be ultimate data of our world as well as provisional categories of our perception.

Mr. Bradley is dissatisfied both with this thesis,¹ and with the arguments given in my book to support it. I care much more about the thesis than about the arguments, so I will spare the reader all cavil at my critic's treatment of the latter. In particular I abandon the *series*-business to his mercy, as being something inessential, for I am much more concerned with furthering understanding of the subject than with defending my own text.² As regards the thesis itself, Mr. Bradley quarrels greatly with the *simplicity of the elements* between which in the last resort it contends that bare unmediated resemblance may obtain. I did, it is true, assume in my text that the elements were simple, and I called them simple qualities, but I regard that as an entirely inessential point. So far as my thesis stands up for ultimate unmediated likeness as against likeness dependent on partially identical content, it makes no difference whether the last elements assumed to

¹ Or have I made a gross blunder, and is he dissatisfied really not with "simple resemblance" but only with "resemblance between simples," on which, as I presently explain, I do not insist?

² One misapprehension, however, I may complain of. Mr. Bradley seems to accuse me of believing that the "points of resemblance" which form the ground of similarity must be "separable" parts of the similar things. *Discernible* parts are all that the argument requires; and I surely never implied that the "points" in question must be susceptible of physical isolation. The accusation is so absurd that I fear I have not understood Mr. Bradley's text.

be like, are simple or complex. They must only not contain any identical point. In other words, complexes like *abc* and *def* might resemble each other by principle (3) as well as simple elements like *a* and *b*.

This clears up one confusion. But dire confusion still remains in my mind as to the rest of what Mr. Bradley may mean. He has a solution of his own which is like neither (1), (2), nor (3) as propounded above. He alludes to it abundantly, but dispenses himself from stating it articulately, or illustrating it by any example, because it proceeds from a principle which he imagines to be the "common property of philosophic students." Such oracular expression of opinion might fairly exempt one from the duty of nearer research, but the great debt I owe to Mr. Bradley's *Logic* makes me struggle in the hope of yet finding valuable truth. Mr. Bradley appears to hold that all likeness must be "in and through a particular point"—at least he says so on page 85. Now call the "point" *m*, and the two like objects *a* and *b*. If the *m* in *a* were simply *like* the *m* in *b*, that would be that simple resemblance over again with which Mr. Bradley is not content. But if we suppose the two *m*'s to be alike by virtue of another "point," finer still, that leads to infinite regress; and that again I understand Mr. Bradley not to favour. It then would remain open to say that the two *m*'s in *a* and *b* are *identical* in nature and only numerically distinct. But here again pure identity displeases Mr. Brad-

ley, whose great principle is that "our one chance lies in maintaining the vital, the inseparable connexion at every point between identity and difference" (bottom of p. 88). Just how this principle works in the matter in question, Mr. Bradley does not divulge, and I wish that, instead of his pleasant irony about my familiarity with the dialectical method, he had himself given some exacter account. I have laboured with the greatest good-will to reconstruct his thought, but feel wholly at sea with my results. If he means simply the Hegelian commonplace that whereas neither the abstract sameness nor the abstract otherness of two objects can constitute likeness between them, the likeness must seek in the "synthesis" of the sameness with the otherness its only possible mode of realisation, that seems to me but an excessively clumsy way of stating in terms of a *quasi*-miracle the very truth which Stumpf and I express by saying that likeness is an immediately ascertained relation. You cannot forever analytically exhibit its *ground*, but must somewhere at last postulate it as there, as having already effected itself, you know not how. Nothing is gained for our understanding by presenting the process as a sort of juggler's trick, that, namely, of the seemingly impossible coalescence, of two contradictory terms; and therefore I cannot believe that the subtle Mr. Bradley has anything as innocent as that in his mind. Perhaps what I write may draw him from his reserve!

Of course there is a familiar path open to those

who believe that likeness must be "in and through a particular point," and who yet deny that the "point" can be in two objects the *same*. They can call likeness an "Antinomy"; saying that all likeness of wholes is conditioned on that of their metaphysical parts, and that unconditionally like parts are unattainable, however long one may seek. But this leaves both immediate likeness and apparent identity as ever-recurring categories in our thinking, never to be expelled from our empirical world, and I submit that Mr. Bradley has not yet shown these categories to be absurd. "Antinomies" should surely not be multiplied beyond necessity. The qualities of the things of this world, the "terms" between which likenesses and differences obtain, are not supposed to be engendered by the summation of a procession of still more inward qualities involved within each other in infinite regression, like the whirls of an endlessly converging spiral that never reaches its central point. Why need we insist that the "relations" between the terms, the likenesses and differences themselves, must be engendered by such an impossible summation or synthesis? How quality logically *makes itself*, we do not know; and we know no more in the case of the quality of a relation of likeness, than in that of the quality of a sensational content.

XXIII

IMMEDIATE RESEMBLANCE ¹

[1893]

MAY another word be permitted in reply to Mr. Bradley's second utterance on this subject, as possibly helping to clear up the dispute? My point of view was merely psychological in contending, as I did in my book, for the admission of immediate resemblance as an ultimate category of our perception, and of comparison as an ultimate function of our thought. The doctrine (made so plausible by familiar examples) that all resemblances must be analysable into identities concealed under non-identities, I showed could not be extended to every imaginable case. Mr. Bradley now says that immediate resemblance without identity seems to him "sheer nonsense," and that "to deny the principle of Identity is to destroy the world," and he challenges me again to "state the principle" on which I "object to identity." To which challenge I can only reply that to identity as such I have no objection in the world, and am astonished that any one should sus-

[¹Reprinted from *Mind*, 1893, N.S. 2, 509—510. Written in reply to F. H. Bradley's "Professor James on Simple Resemblance," *Mind*, 1893, N.S. 2, 366—369, in which Bradley defends the conception of identity-in-difference. A final reply by Mr. Bradley appeared in *ibid.*, p. 510. Ed.]

pect me of such an irrational aversion. Every act of reasoning, every bit of analysis, proves the practical utility and the psychological necessity of the assumption that identical characters may be "encapsulated" in different things. But I say that there must be *some* things whose resemblance is *not* based on such discernible and abstractable identity. Now, the identity on which Mr. Bradley himself thinks that the resemblance between all things must be based is no such abstractable identity. It is not separable, it is not even discernible, he says, from difference. It is only one aspect of an integral whole on which you may lay stress for a moment, but if you abstract it, or put it ideally in a box by itself, you make it self-inconsistent, or reduce it to nothing. But an "identity" thus conceived is so different a thing from the stark self-sameness which "identity" denotes in logic, that it seems unfortunate to describe it by the same name. The usual English name for that sort of identity between two things which you cannot abstract or distinguish from their difference is their "resemblance." So that Mr. Bradley now makes perfectly clear that in seeming to attack Professor Stumpf's and my doctrine he is but reaffirming it under a changed name. When he insists that every resemblance must have for its inner ground an "identity" thus complicatedly conceived, he is like a man who should say "every resemblance must have for its inner ground the resemblance itself." Why, such being the case, he should quarrel with me I cannot fathom: for this

is exactly the opinion I have myself stood up for in all simple cases. Can it be the word "simple" which has caused all the trouble?—for I believe that in my book I did heedlessly use the expression "simple resemblance" in one place. But I never meant thereby to imply that the simplest phenomenon of resemblance might not seem, when contemplated long enough, fairly to curdle and swim with inner complexity, to embody inseparable oppositions, or whatever more of vital mystery any one may find. The simplest ideas, as I meant to use the word simple, begin to look the queerest when gazed at in this way. But such gazing is a "metaphysical" occupation, in which we shall all indulge, I am sure, with the greatest profit, when Mr. Bradley's new book comes out. *I* never meant to go beyond psychology; and on that relatively superficial plane I now confidently greet Mr. Bradley, no longer as the foe which by a mere verbal ambiguity he has seemed, but as a powerful and welcome ally.

XXIV

LADD'S "PSYCHOLOGY: DESCRIPTIVE AND EXPLANATORY" ¹

[1894]

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As regards the originality of this treatise, it is strictly true that it is *independent* from beginning to end. The period of assimilation is past for the author; the raw materials have been brought into solution, and have crystallized out again spontaneously and naturally in the form that characterizes his mind. In this sense his pages are mellow and alive, and full of native observation and expression of belief. But with all the concreteness, honesty, veracity, and shrewd humor that I find, I can, with the best will in the world, find no one idea or argument that abides with me as an unforgettable addition to the subject. What does strike me with the force of freshness is the amazing thoroughness with which Professor Ladd realizes the intricacy of his facts. It seems to me little short of wonderful that a man should be able to make so many subdivisions, and find so many distinct things to say on the descriptive level. In this sense he *is* original,

[¹The closing paragraphs of a review of G. T. Ladd's *Psychology: Descriptive and Explanatory*. Reprinted from *Psychological Review*, 1894, 1, 286-293. Ed.]

for no one has yet attained to writing up the subject in as fine-grained a way as this. But to be perfectly frank—and here I fully realize that the critic writes down his own shortcomings even more plainly than those of the author on whom he presumes to animadvert with his subjective epithets—I find this whole descriptive sort of treatment *tedious* as few things can be tedious, tedious not as really hard things, like physics and chemistry, are tedious, but tedious as the throwing of feathers hour after hour is tedious; and I confess that when I think of the probable number of virgin-minded youths and maidens, hungry for spiritual food, who, through the length and breadth of this great land, will now certainly be led over all these pages of fine print merely to get back,

“Statt der lebendigen Natur

Da Gott den Menschen schuf hinein,”

all these terrific abstract words and sentences, I feel a sort of shudder at the violence done to human want. It is not that Ladd *quâ* Ladd is a tedious writer,—I could name many eminent psychologists who are more tedious to me than he,—but that mere description as such, mere translation into words of what we already possess in living fulness in our bosoms, is bound to be tedious under any circumstances. To speak more soberly, could not the words have been much fewer, and yet have contained all the abstract truth one needs to know?

These groans of mine no doubt proceed from the

same idiosyncrasy that makes me demand that psychology shall be a "science" in a sense different from that by which Professor Ladd is satisfied. I desiderate "conditions"; for Ladd "analysis" and "tracing of genesis and growth" are enough (p. 8). I cry for a "Galileo or a Lavoisier" to lift us from this flat descriptive level, whilst my colleague says that he does not sympathize in the least with such "a confession of weakness—for example—because 'psychology is still in the condition of chemistry before Lavoisier,' nor look forward with the expectation that soon some Lavoisier will arise to rescue it from its depressed condition" (659). He thinks that all attempts to assimilate psychology to the other natural sciences are "misleading" (*ibid.*). To me this lack of craving for insight into causes is most strange. Here is a flagrant mystery, that of the union of mind with brain, and we are apparently told that we must seek no reasons for it in a deeper insight into either factor!—told, in other words, that a mere narrative of the life of the spiritual being with its "unique unity," developing according to its equally unique laws, is the uttermost ideal of research—for Professor Ladd's contention is hardly distinguishable from this. To me, on the other hand, it seems as if "methodologically" the crudest cerebralistic theories, or the wildest theosophic ones about the seven principles of human nature, lead in a more healthy direction than this contented resignation. And as the theories of inheritance have killed the taxonomic and biographic

view of natural history by merely superseding it, and reduced the older books of classification to mere indexes, so will the descriptive psychologies be similarly superseded the moment some genuinely causal psycho-physic theory comes upon the stage. Not that they will be judged false, but that they will then seem insignificant. Alas that my learned Yale co-editor will not join with me in saying:

“Ring out, ring out, *our* mournful rhymes,
But ring the fuller minstrel in”!

XXV

THE PHYSICAL BASIS OF EMOTION ¹

[1894]

IN the year 1884 Professor Lange of Copenhagen and the present writer published, independently of each other, the same theory of emotional consciousness. They affirmed it to be the effect of the organic changes, muscular and visceral, of which the so-called "expression" of the emotion consists. It is thus not a primary feeling, directly aroused by the exciting object or thought, but a secondary feeling indirectly aroused; the primary effect being the organic changes in question, which are immediate reflexes following upon the presence of the object.

This idea has a paradoxical sound when first apprehended, and it has not awakened on the whole the confidence of psychologists. It may interest some readers if I give a sketch of a few of the more recent comments on it.

Professor Wundt's criticism may be mentioned first.² He unqualifiedly condemns it, addressing himself exclusively to Lange's version. He accuses the latter of being one of those *psychologischen Scheinerklärungen* which assume that science is

[¹ Reprinted from *Psychological Review*, 1894, 1, 516-529. Cf. "What is an Emotion?" above, pp. 244-275, and p. 244, note, Ed.]

² *Philosophische Studien*, VI., 349 (1891).

satisfied when a psychic fact is once for all referred to a physiological ground.

His own account of the matter is that the immediate and primary result of "the reaction of Apperception¹ on any conscious-content" or object is a *Gefühl* (364). *Gefühl* is an unanalyzable and simple process corresponding in the sphere of *Gemüth* to sensation in the sphere of intellection (359). But *Gefühle* have the power of altering the course of ideas—inhibiting some and attracting others, according to their nature; and these ideas in turn produce both secondary *Gefühle* and organic changes. The organic changes in turn set up additional *sinnliche Gefühle* which fuse with the preceding ones and strengthen the volume of feeling aroused. This whole complex process is what Wundt calls an *Affect* or Emotion—a state of mind which, as he rightly says, "has thus the power of intensifying itself" (358–363). I shall speak later of what may be meant by the primary *Gefühl* thus described. Wundt in any case would seem to be certain both

¹In this article, as in the 4th edition of his *Psychology*, Wundt vaguely completes his *volte-face* concerning "Apperception" and dimly describes the latter in associationist terms. "Apperception is nothing really separable from the effects which it produces in the content of representation. In fact it consists of nothing but these concomitants and effects. [A thing that "consists" of its concomitants!] . . . In each single apperceptive act the entire previous content of the conscious life operates as a sort of integral total force" (364, 365), etc. The whole account seems indistinguishable from pure Herbartism, in which Apperception is only a name for the interaction of the old and the new in consciousness, of which interaction feeling may be one result.

that it is the essential part of the emotion, and that currents from the periphery cannot be its organic correlate. I should say, granting its existence, that it falls short of the emotion proper, since it involves no *commotion*, and that such currents *are* its cause. But of these points later on. The rest of Wundt's criticism is immaterial, dealing exclusively with certain rash methodological remarks of Lange's; emphasizing the "parallelism" of the psychical and the physical; and pointing out the vanity of seeking in the latter a causal explanation of the former. As if Lange ever pretended to do this in any intimate sense! Two of Wundt's remarks, however, are more concrete.

How insufficient, he says, must Lange's explanation of emotions from vaso-motor effects be, when it results in making him put joy and anger together in one class! To which I reply both that Lange has laid far too great stress on the vaso-motor factor in his explanations, and that he has been materially wrong about congestion of the face being the essential feature in anger, for in the height of that passion almost every one grows pale—a fact which the expression "white with rage" commemorates. Secondly, Wundt says, whence comes it that if a certain stimulus be what causes emotional expression by its mere reflex effects, another stimulus almost identical with the first will fail to do so if its *mental* effects are not the same? (355). The mental motivation is the essential thing in the production of the emotion, let the "object" be what it may.

This objection, in one form or another, recurs in all the published criticisms. "Not the mere object as such is what determines the physical effects," writes Mr. D. Irons in a recent article¹ which, if it were more popularly written, would be undeniably effective, "but the subjective feeling towards the object. . . . An emotional class is not something objective; each subject to a great extent classifies in this regard for itself, and even here time and circumstance make alteration and render stability impossible. . . . *If I were not afraid, the object would not be an object of terror*" (p. 84). And Dr. W. L. Worcester, in an article² which is both popularly written and effective, says: "Neither running nor any other of the symptoms of fear which he [W. J.] enumerates is the necessary result of seeing a bear. A chained or caged bear may excite only feelings of curiosity, and a well-armed hunter might experience only pleasurable feelings at meeting one loose in the woods. It is not, then, the perception of the bear that excites the movements of fear. We do not run from the bear unless we suppose him capable of doing us bodily injury. Why should the expectation of being eaten, for instance, set the muscles of our legs in motion? 'Common sense' would be likely to say that it was because we object to being eaten; but according to Professor James the reason we dislike to be eaten is because we run away" (287).

¹Professor James's "Theory of Emotion," *Mind*, p. 78, 1894.

²"Observations on Some Points in James's *Psychology*. II. Emotion," *The Monist*, Vol. III., p. 285 (1893).

A reply to these objections is the easiest thing in the world to make if one only remembers the force of association in psychology. "Objects" are certainly the primitive arousers of instinctive reflex movements. But they take their place, as experience goes on, as elements in total "situations,"¹ the other suggestions of which may prompt to movements of an entirely different sort. As soon as an object has become thus familiar and suggestive, its emotional consequences, *on any theory of emotion*, must start rather from the total situation which it suggests than from its own naked presence. But whatever be our reaction on the situation, in the last resort it is an instinctive reaction on that one of its elements which strikes us for the time being as most vitally important. The same bear may truly enough excite us to either fight or flight, according as he suggests an overpowering "idea" of his killing us, or one of our killing him. But in either case the question remains: Does the emotional excitement which follows the idea follow it immediately, or secondarily and as a consequence of the "diffusive wave" of impulses aroused?

Dr. Worcester finds something absurd in the very notion of acts constituting emotion by the consciousness which they arouse. How is it, he says, with voluntary acts? "If I see a shower coming up and run for a shelter, the emotion is evidently of the same kind, though perhaps less in degree, as in the case of

¹ In my nomenclature it is the total situation which is the "object" on which the reaction of the subject is made.

the man who runs from the bear. According to Professor James, I am afraid of getting wet because I run. But suppose that instead of running I step into a shop and buy an umbrella. The emotion is still the same. I am afraid of getting wet. Consequently, so far as I can see, the fear in this case consists in buying the umbrella. Fear of hunger, in like manner, might consist in laying in a store of provisions; fears of poverty in shovelling dirt at a dollar a day, and so on indefinitely. Anger, again, may be associated with many other actions than striking. Shylock's anger at Antonio's insults induced him to lend him money. Did the anger . . . consist in the act of lending the money?" (291). I think that all the force of such objections lies in the slapdash brevity of the language used, of which I admit that my own text set a bad example when it said "we are frightened because we run." Yet let the word "run" but stand for what it was meant to stand for, namely, for many other movements in us, of which invisible visceral ones seem by far the most essential; discriminate also between the various grades of emotion which we designate by one name, and our theory holds up its head again. "Fear" of getting wet is not the same fear as fear of a bear. It may limit itself to a prevision of the unpleasantness of a wet skin or of spoiled clothes, and this may prompt either to deliberate running or to buying an umbrella with a very minimum of properly emotional excitement being aroused. Whatever the fear may be in such a case, it is not con-

stituted by the voluntary act.¹ Only the details of the concrete case can inform us whether it be, as above suggested, a mere ideal vision of unpleasant sensations, or whether it go farther and involve also feelings of reflex organic change. But in either case our theory will cover all the facts.

Both Dr. Worcester and Mr. Irons are struck by this variability in the symptoms of any given emotion; and holding the emotion itself to be constant, they consider that such inconstant symptoms cannot be its cause. Dr. Worcester acutely remarks that the actions accompanying all emotions tend to become alike in proportion to their intensity. People weep from excess of joy; pallor and trembling accompany extremes of hope as well as of fear, etc. But, I answer, do not the subject's feelings also then tend to become alike, if considered in themselves apart from all their differing intellectual contexts? My theory maintains that they should do so; and such reminiscences of extreme emotion as I possess rather seem to confirm than to invalidate such a view.

In Dr. Lehmann's highly praiseworthy book, *Die Hauptgesetze des menschlichen Gefühlslebens*,² much is said of Lange's theory; and in particular this same alleged identity of the emotion in the midst of such shifting organic symptoms seems to strike the critic as a fact irreconcilable with its be-

¹ When the running has actually commenced, it gives rise to *exhilaration* by its effects on breathing and pulse, etc., in this case, and not to *fear*.

² Leipzig, 1892.

ing true. The emotion ought to be different when the symptoms are different, if the latter *make* the emotion; whereas if we lay a primary mental feeling at its core its constancy with shifting symptoms is no such hard thing to understand (p. 120). *Some* inconstancy in the mental state itself, however, Dr. Lehmann admits to follow from the shifting symptoms; but he contrasts the small degree of this inconstancy in the case of "motived" emotions where we have a recognized mental cause for our mood, with its great degree where the emotion is "unmotived," as when it is produced by intoxicants (alcohol, haschisch, opium) or by cerebral disease, and changes to its opposite with every reversal of the vaso-motor and other organic states. I must say that I cannot regard this argument as fatal to Lange's and my theory so long as we remain in such real ignorance as to what the subjective variations of our emotions actually are. Exacter observation, both introspective and symptomatic, might well show in "motived" emotions also just the amount of inconstancy that the theory demands.

Mr. Irons actually accuses me of self-contradiction in admitting that the symptoms of the same emotion vary from one man to another, and yet that the emotion has them for its cause. How can any definite emotion, he asks, exist under such circumstances, and what is there then left to give unity to such concepts as anger or fear at all (82)? The natural reply is that the bodily variations are within limits, and that the symptoms of the angers and of

the fears of different men still preserve enough *functional* resemblance, to say the very least, in the midst of their diversity to lead us to call them by identical names. Surely there *is* no definite affection of "anger" in an "entitative" sense.

Mr. Irons finds great difficulty in believing that both intellectual and emotional states of mind, both the cognition of an object and the emotion which it causes, contrasted as they are, can be due to such similar neural processes, viz., currents from the periphery, as my theory assumes. "How," he asks, "can one perceptive process of itself suffuse with emotional warmth the cold intellectuality of another? . . . If perceptions can have this warmth, why is it the exclusive property of perception of organic disturbance (85)?" I reply in the first place that it is not such exclusive property, for all the higher senses have warmth when "æsthetic" objects excite them. And I reply in the second place that even if secondarily aroused visceral thrills were the only objects that had warmth, I should see no difficulty in accepting the fact. This writer further lays great stress on the vital difference between the receptive and the reactive states of the mind, and considers that the theory under discussion takes away all ground for the distinction. His account of the inner contrast in question is excellent. He gives the name of "feeling-attitude" to the whole class of reactions of the self, of which the experiences which we call emotions are one species. He sharply distinguishes feeling-attitude from mere

pleasure and pain—a distinction in which I fully agree. The line of direction in feeling-attitude is from the self outward, he says, while that of mere pleasure and pain (and of perception and ideation) is from the object to the self. It is impossible to feel pleasure or pain *towards* an object; and common language makes a sharp distinction between being pained and having bad feelings towards somebody in consequence. These attitudes of feeling are almost indefinitely numerous; some of them must always intervene between cognition and action, and when in them we feel our whole Being moved (93–96). Of course one must admit that any account of the physiology of emotion that should be inconsistent with the possibility of this strong contrast within consciousness would thereby stand condemned. But on what ground have we the right to affirm that visceral and muscular sensibility cannot give the direction from the self outwards, if the higher senses (taken broadly, with their ideational sequelæ) give the direction from the object to the self? We do, it is true, but follow a natural analogy when we say (as Fouillée keeps saying in his works on *Idées-forces*, and as Ladd would seem to imply in his recent *Psychology*) that the former direction in consciousness ought to be mediated by outgoing nerve-currents, and the latter by currents passing in. But is not this analogy a mere superficial fancy, which reflection shows to have no basis in any existing knowledge of what such currents can or cannot bring to pass? We surely know too

little of the psycho-physic relation to warrant us in insisting that the similarity of direction of two physical currents makes it impossible that they should bring a certain inner contrast about.

Both Dr. Worcester and Mr. Irons insist on the fact that consciousness of bodily disturbance, taken by itself, and apart from its combination with the consciousness of an exciting object, is not emotional at all. "Laughing and sobbing, for instance," writes the former, "are spasmodic movements of the muscles of respiration, not strikingly different from hiccoughing; and there seems no good reason why the consciousness of the former two should usually be felt as strong emotional excitement while the latter is not. . . . Shivering from cold, for instance, is the same sort of a movement as may occur in violent fright but it does not make us feel frightened. The laughter excited in children and sensitive persons by tickling of the skin is not necessarily accompanied by any mirthful feelings. The act of vomiting may be the accompaniment of the most extreme disgust, or it may occur without a trace of such emotion" (289). The facts must be admitted; but in none of these cases where an organic change gives rise to a mere local bodily perception is the reproduction of an emotional diffusive wave complete. Visceral factors, hard to localize, are left out; and these seem to be the most essential ones of all. I have said that where they also from any inward cause are added, we *have* the emotion; and that then the subject is seized with objectless or pathological

dread, grief, or rage, as the case may be. Mr. Irons refuses to accept this interpretation. The bodily symptoms do not here, he says, when felt, constitute the emotion. In the case of fear they constitute rather the object of which we are afraid. We fear *them*, on account of their unknown or indefinite evil consequences. In the case of morbid rage, he suggests, the movements are probably not the expression of a genuine inner rage, but only frantic attempts to relieve some inward pain, which outwardly look like rage to the observer (80). These interpretations are ingenious, and may be left to the reader's judgment. I confess that they fail to convert me from my own hypothesis.¹

Messrs. Irons and Wundt (and possibly Baldwin and Sully, neither of whom accept the theory in dis-

¹ Mr. Irons elsewhere says that "an object on being presented suddenly may cause intense fear. On being recognized as familiar the terror may vanish instantly, and while the mental mood has changed, for a measurable time at least, all the bodily effects of the former state are present" (86). Their dying phase certainly is present for a while; but *has* the emotion then "vanished instantly"? I should rather say that there is then a very mixed emotional state, in which something of the departing terror still blends with the incoming joy of relief. The case of waking from nightmare is for us civilizees probably the most frequent experience in point. On such occasions the horror with me is largely composed of an intensely strong but indescribable feeling in my breast and in all my muscles, especially those of the legs, which feel as if they were boiled into shreds or otherwise inwardly decomposed. This feeling fades out slowly and until it is gone the horror abides, in spite of the fact that I am already enjoying the incomplete relief which comes of knowing that the bad experience is a dream, and that the horror is on the wane. It were much to be wished that many persons should make observations of this sort, for individual idiosyncrasy may be great.

pute, but to whose works I have not access where I write, so that I cannot verify my impression) think that the theory carries with it implications of an objectionable sort philosophically. Irons, for example, says that it belongs to a psychology in which feeling can have no place, because it ignores the self and its unity, etc. (92). In my own mind the theory has no philosophic implications whatever of a general sort. It assumes (what probably every one assumes) that there must be a process of some sort in the nerve-centres for emotion, and it simply defines that process to consist of afferent currents. It does this on no general theoretic grounds, but because of the introspective appearances exclusively.

The objective qualities with which perception acquaints us are considered by psychologists to be results of sensation. When these qualities affect us with pleasure or displeasure, we say that the sensations have a "tone of feeling." Whether this tone be due to a mere form of the process in the nerve of sense, as some authors (*e.g.*, Mr. Marshall) think, or to additional specific nerves, as others (*e.g.*, Dr. Nichols) opine, is immaterial. The pleasantness or unpleasantness, once there, seems immediately to inhere in the sensible quality itself. They are beaten up together in our consciousness. But in addition to this pleasantness or painfulness of the content, *which in any case seems due to afferent currents*, we may also feel a general seizure of excitement, which Wundt, Lehmann, and other German writers call an *Affect*, and which is what I have

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all along meant by an emotion. Now whenever I myself have sought to discover the mind-stuff of which such seizures consist, it has always seemed to me to be additional sensations often hard to describe, but usually easy to identify, and localized in divers portions of my organism. In addition to these sensations I can discern nothing but the "objective content" (taking this broadly so as to include judgments as well as elements judged), together with whatever agreeableness or disagreeableness the content may come tinged by.¹ *Such organic sensations being also*

¹ The disagreeableness, etc., is a very mild affection, not drastic or grasping *in se* in the case of any objective content except localized bodily *pain*, properly so called. Here the feeling seems in itself overpowering in intensity apart from all secondary emotional excitement. But I think that even here a distinction needs to be made between the primary consciousness of the pain's *intrinsic quality*, and the consciousness of its degree of *intolerability*, which is a secondary affair, seeming connected with reflex organic irradiations. I recently, while traversing a little surgical experience, had occasion to verify once more the fact that it is not the mere *bigness* of a pain that makes it most unbearable. If a pain is honest and definite and well localized it may be very heavy and strong without taxing the extreme of our endurance. But there are pains which we feel to be faint and small in their intrinsic amount, but which have something so poisonous and non-natural about them that consent to their continuance is impossible. Our whole being refuses to suffer them. These pains produce involuntary shrinkings, writhings, sickness, faintness, and dread. For such emotion superadded to the pain itself there is no distinctive name in English. Professor Münsterberg has distinguished between *Schmerz* as an original "content" of consciousness and *Unlust* as due to flexor reactions provoked thereby; and before his Essay appeared, I remember hearing Dr. D. S. Miller and Dr. Nichols maintain in conversation that painfulness may be always a matter of "intolerability," due to the reflex irradiations which the painful object may arouse. Thus might even the mildest *Gemütsvorgänge* be brought under the terms of my theory.

presumably due to incoming currents, the result is that the whole of my consciousness (whatever its inner contrasts be) seems to me to be outwardly mediated by these. This is the length and breadth of my "theory"—which, as I apprehend it, is a very unpretending thing.

It may be, after all, that the difference between the theory and the views of its critics is insignificant. Wundt admits tertiary feelings, due to organic disturbance, which must fuse with the primary and secondary feelings before we can have an "Affect"; Lehmann writes: "Constrained by the facts, we are obliged to concede to the organic sensations and tones of feeling connected with them an essential participation in emotion (*wesentliche Bedeutung für die Affecte*)" (p. 115); and Professor Ladd also admits that the "rank" quality of the emotions comes from the organic repercussions which they involve. So far, then, we are all agreed; and it may be admitted, in Dr. Worcester's words, that the theory under attack "contains an important truth," and even that its authors have "rendered a real service to psychology" (p. 295). Why, then, is there such strong opposition? When the critics say that the theory still contradicts their consciousness (Worcester, p. 288), do they mean that introspection acquaints them with a part of the emotional excitement which it is psycho-physically impossible that incoming currents should cause? Or, do they merely mean that the part which introspection can *localize* in the body is so small that when abstracted

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a large mass of unlocalizable emotion remains? Although Mr. Irons professes the former of these two meanings, the only prudent one to stand by is surely the latter; and here, of course, every man will hold by his own consciousness. I for one shall never deny that individuals may greatly differ in their ability to localize the various elements of their organic excitement when under emotion. I am even willing to admit that the primary *Gefühlston* may vary enormously in distinctness in different men. But speaking for myself, I am compelled to say that the only feelings which I cannot more or less well localize in my body are very mild and, so to speak, platonic affairs. I allow them hypothetically to exist, however, in the form of the "subtler" emotions, and in the mere intrinsic agreeableness and disagreeableness of particular sensations, images, and thought-processes, where no obvious organic excitement is aroused.¹

This being the case, it seems almost as if the question had become a verbal one. For which sort of feeling is the *word* "emotion" the more proper name—for the organic feeling which gives the rank character of commotion to the excitement, or for that

¹ Mr. Irons contends that in admitting "subtler" forms of emotion, I throw away my whole case (88, 89); and Dr. Lehmann enters into an elaborate argument to prove (as he alleges, against Lange and me) that primary feeling, as a possible accompaniment of any sensation whatever, must be admitted to exist (§§ 157-164). Such objections are a complete *ignoratio elenchi*, addressed to some imaginary theory with which my own, as I myself understand it, has nothing whatever to do, all that I have ever maintained being the dependence on incoming currents of the *emotional seizure* or *Affect*.

more primary pleasure or displeasure in the object, or in the thought of it, to which commotion and excitement do not belong? I myself took for granted without discussion that the word "emotion" meant the rank feeling of excitement, and that the special emotions were names of special feelings of excitement, and not of mild feelings that might remain when the excitement was removed. It appears, however, that in this assumption I reckoned without certain of my hosts.

Dr. Worcester's quarrel with me at the end of his article becomes almost exclusively verbal. All pleasure and pain, he says, whether primary and of the higher senses and intellectual products, or secondary and organic, should be called "emotion" (296).¹ Pleasure or pain revived in idea, as distinguished from vivid sensuous pleasure and pain, he suggests to be what is meant by emotion "in the sense in which the word is commonly used" (297); and he gives an array of cases in point:

"Suppose that I have taken a nauseous dose and made a wry face over it. No one, I presume, would question that the disagreeableness lay in the unpleasant taste, and not in the distortion of the countenance.

¹ "The essence of emotion is pleasure and pain," he adds. This is a hackneyed psychological doctrine, but on any theory of the seat of emotion it seems to me one of the most artificial and scholastic of the untruths that disfigure our science. One might as well say that the essence of prismatic color is pleasure and pain. There are infinite shades and tones in the various emotional excitements, which are as distinct as sensations of color are, and of which one is quite at a loss to predicate either pleasant or painful quality.

Now suppose I have to repeat the dose, and my face takes on a similar expression, at the anticipation, to that which it wore when I took it originally. How does this come about? If I can trust my own consciousness, it is because the vivid reproduction, in memory, of the unpleasant taste is itself unpleasant. . . . If this be the fact, what can be more natural than that it should excite the same sort of associated movements that were excited by the original sensation? I cannot make it seem any more credible that my *repugnance* to a repetition of the dose is due to my involuntary movements than my discomfort in taking it originally was due to the similar movements that occurred then. . . . I hardly think that any one who will consult his own consciousness will say that the reason he likes the taste of an orange is that it makes him laugh or smile to get it. He *likes* it because it tastes good, and is sorry to lose it for the same reason." (*Ibid.*)

Now, accepting Dr. Worcester's description of the facts, I remark immediately that the nauseousness and pleasantness are due to incoming nerve-currents—at any rate in the cases which he selects—and the feeling of the involuntary movements as well; so whatever name we give to the phenomena, so far they fall comfortably under the terms of my theory. The only question left over is what may be covered by the words "repugnance" and "liking," which I have italicized, but which Dr. Worcester does not emphasize, as he describes his instances. Are these a third sort of affection, *not* due to afferent currents, and interpolated between the gustatory feelings and reactions which are so due? Or are they a name for what, when carefully considered, resolves itself into

more delicate reactions still? I privately incline to the latter view, but the whole *animus* of my critic's article obliges me to attribute to him the opinion, not only that the like and dislike must be a third sort of affection not grounded on incoming currents, but that they form the distinctive elements of the "emotional" state of mind.

The whole discussion sharpens itself here to a point. We can leave the lexicographers to decide which elements the word "emotional" belongs to; for our concern is with the facts, and the question of fact is now very plain. Must we (under any name) admit as an important element in the emotional state of mind something which is distinct both from the intrinsic feeling-tone of the object and from that of the reactions aroused—an element of which the "liking" and "repugnance" mentioned above would be types, but for which other names may in other cases be found? The belief that some such element does exist, and exist in vital amount, is undoubtedly present in the minds of all the rejectors of the theory in dispute. Dr. Worcester rightly regrets the deadlock when one man's introspection thus contradicts another's (288), and demands a more objective sort of umpire. Can such a one be found? I shall try to show now that it possibly has been found; and that Dr. Sollier's recent observations on complete anæsthetics show that in some persons at least the supposed third kind of mental element may exist, if it exists at all, in altogether inappreciable amount.

In my original article I had invoked cases of generalized anæsthesia, and admitted that if a patient could be found who, in spite of being anæsthetic inside and out, could still suffer emotion, my case would be upset.¹ I had quoted such cases as I was aware of at the time of writing, admitting that so far as appearances went they made against the theory; but I had tried to save the latter by distinguishing between the objective reaction which the patient makes and the subjective feeling which it gives him. Since then a number of cases of generalized anæsthesia have been published, but unfortunately the patients have not been interrogated from the proper point of view. The famous "theory" has been unknown to the reporting doctors. Two such cases, however, described by Dr. Berkley of Baltimore,² are cited by Dr. Worcester "for what they are worth" in its refutation (294). The first patient was an Englishwoman, with complete loss of the senses of pain, heat and cold, pressure and equilibrium, of smell, taste, and sight. The senses of touch and of position were not completely gone, but greatly impaired, and she could hear a little. As for visceral sensations, she had had no hunger or thirst for two years, but she was warned by feeling of the evacuative needs. She laughs at a joke, shows definitely grief, shame, surprise, fear, and repulsion. Dr. Berkley writes to Dr. Worcester as follows: "My own impression derived from observation of the patient, is that all mental emotional sensi-

[¹ See above, p. 271. Ed.]² *Brain*, Part IV, 1891.

bilities are present, and only a little less vivid than in the unanæsthetic state; and that emotions are approximately natural and not at all coldly dispassionate."

The second case was that of a Russian woman with complete loss of cutaneous, and almost complete loss of muscular, sensibility. Sight, smell, hearing preserved, and nothing said of visceral sensation (in Dr. Worcester's citation). She showed anger and amusement, and not the slightest apathy.

This last case is obviously too incompletely reported to serve; and in the preceding one it will be noticed that certain degrees of visceral and of muscular sensibility remained. As these seem the important sorts emotionally, she may well have felt emotion. Dr. Berkley, however, writes of her "apathy"; and it will be noticed that he thinks her emotions "less vivid than in the unanæsthetic state."

In Dr. Sollier's patient the anæsthesia was far more complete, and the patient was examined for the express purpose of testing the dependence of emotion on organic sensibility. Dr. Sollier, moreover, experimented on two other subjects in whom the anæsthesia was artificially induced by hypnotic suggestion. The spontaneous case was a man aged forty-four; the hypnotic cases were females of hysteric constitution.¹ In the man the anæsthetic condition extended so far that at present every surface, cutaneous and mucous, seems absolutely insen-

¹ The paper, entitled "Recherches sur les Rapports de la Sensibilité et de l'Émotion," will be found in the *Revue Philosophique* for March of this year, Vol. XXXVII., p. 241.

sible. The muscular sense is wholly abolished; the feelings of hunger and satiety do not exist; the needs of defecation and micturition are unfelt; taste and smell are gone; sight much enfeebled; hearing alone is about normal. The cutaneous and tendinous reflexes are lacking. The physiognomy has no expression; speech is difficult; the entire muscular apparatus is half paralyzed, so that locomotion is almost impossible.

“‘I *know*,’ this patient says, ‘that I have a heart, but I do not feel it beat, except sometimes very faintly.’ When an event happens which ought to affect it [the heart, as I understand the text], he fails equally to feel it. He does not feel himself breathe, or know whether he makes a strong or a weak inspiration. ‘I do not feel myself alive,’ he says. Early in his illness he several times thought himself dead. He does not know whether he is asleep or awake. . . . He often has no thoughts. When he does think of anything it is of his home or of the war of 1870, in which he took part. The people whom he sees come and go about him are absolutely indifferent to him. He does not notice what they do. ‘They do not appear,’ he says, ‘like natural men to me, but more like mechanisms.’ Similar perturbations of perception occur also in hearing. ‘I do not hear in the old way; it is as if it sounded in my ear, but did not enter into my head. It does not stay there long.’ His *aprosodia* is complete, and he is incapable of interest in anything whatever. Nothing gives him pleasure. ‘I am insensible to everything; nothing interests me. I love nobody; neither do I dislike anybody.’ He does not even know whether it would give him pleasure to get well, and when I tell him that his cure is possible it awakens no reaction—not even

one of surprise or doubt. The only thing that seems to move him a little is the visit of his wife. When she appears in the room 'it gives me a stroke in the stomach,' he says; 'but as soon as she is there I wish her away again.' He often has a fear that his daughter may be dead. 'If she should die I believe I should not survive her, although if I never were to see her again it would make no difference to me.' His visual images are non-existent, and he has no representation of his wife when she is gone. The weakness of the sensations remaining to him gives him a sense of uncertainty about all things: 'I am never sure of anything.' Nothing surprises or astonishes him. His state of apathy, of indifference, of extreme emotionlessness, has developed slowly *pari passu* with the anæsthesia. His case realizes, therefore, as completely as possible the experiment desiderated by W. James."

In the hypnotic experiments, Dr. Sollier provoked in his subjects sometimes visceral and sometimes peripheral anæsthesia, and sometimes both at once. He registered the organic reactions (by pneumograph, etc.) as far as possible, and compared them with those produced in the same subject when an emotion-exciting idea was suggested, first in the anæsthetic and then in the normal state. Finally, he questioned the subject on the impressions she had received. For the detailed results the reader must consult the original paper. I will only mention those which seem most important, as follows:

(1) Complete peripheral anæsthesia abolishes completely the power of movement. At the same time the limbs grow cold and sometimes blue (247).

(2) When visceral anæsthesia is added, the

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patient says she feels as if she no longer were alive (*ibid.*).

(3) When totally anæsthetic she feels no normal emotion whatever at the suggestion of hallucinations and delusions which have the power of moving her strongly when the sensibility is restored. When the anæsthesia is less complete she may say that she feels not the usual emotion, but a certain stroke in the head or stomach at the reception of the moving idea (250, 254).

(4) When the anæsthesia is solely peripheral, the emotion takes place with almost normal strength.

(5) When it is solely visceral, the emotion is abolished almost as much as when it is total, so that the emotion depends almost exclusively on visceral sensations (258).

(6) There is sometimes a very slight motor reaction shown by the pneumograph in visceral anæsthesia when an exciting idea is suggested (Figs. 2, 7 *bis*), but M. Sollier thinks (for reasons of a highly speculative kind) that in complete *inmotivity* the visceral reactions themselves do not take place (265).

The reader sees that M. Sollier's experimental results go on the whole farther than "my theory" ever required. With the visceral sensibility not only the "coarser" but even the "subtler" forms of emotion depart. Some people must then be admitted to exist in whom the amount of supposed feeling that is not due to incoming currents is a negligible quantity. Of course we must bear in mind the fallibility

of experiments made by the method of "suggestion." We must moreover remember that the male patient's inmotivity may have been a co-ordinate result with the anæsthesia, of his neural lesions, and not the anæsthesia's mere effect. But nevertheless, if many cases like those of M. Sollier should be found by other observers, I think that Professor Lange's theory and mine ought no longer to be treated as a heresy, but might become the orthodox belief. That part, if there be any, of emotional feeling which is not of afferent origin should be admitted to be insignificant, and the name "emotion" should be suffered to connote organic excitement as the distinctive feature of the state.

XXVI

THE KNOWING OF THINGS TOGETHER¹

[1895]

I

THE nature of the synthetic unity of consciousness is one of those great underlying problems that divide the psychological schools. We know, say, a dozen things singly through a dozen different mental states. But on another occasion we may know the same dozen things together through a single mental state. The problem is as to the relation of the previous many states to the later one state.

¹Read as the President's Address before the American Psychological Association at Princeton, December, 1894, and reprinted with some unimportant omissions, a few slight revisions, and the addition of some explanatory notes. [Reprinted from the *Psychological Review*, 1895, 2, 105-124. Pages 374-379, dealing with the distinction between representative and immediate knowledge, were reprinted in *The Meaning of Truth* (1909), pp. 43-50, under the title of "The Tigers in India." For a later elaboration of this topic, cf. also *Essays in Radical Empiricism* (1912), pp. 1-91. The remainder of the present article, dealing with the problem of the unity of consciousness, should be read in the light of the earlier view maintained in the *Principles* (1890), Vol. I., pp. 177, 278, and *passim*, and the later view adopted in *The Pluralistic Universe* (1909), pp. 190, 205-212. It was on this issue of "the compounding of consciousness" that James finally broke with "logic" and adopted Bergsonism (*ibid.*, 212, 214). Ed.]

In physical nature, it is universally agreed, a multitude of facts always remain the multitude they were and appear as one fact only when a mind comes upon the scene and so views them, as when H-O-H appear as "water" to a human spectator. But when, instead of extramental "things," the mind combines its own "contents" into a unity, what happens is much less plain.

The matters of fact that give the trouble are among our most familiar experiences. We know a lot of friends and can think of each one singly. But we can also think of them together, as composing a "party" at our house. We can see single stars appearing in succession between the clouds on a stormy night, but we can also see whole constellations of those stars at once when the wind has blown the clouds away. In a glass of lemonade we can taste both the lemon and the sugar at once. In a major chord our ear can single out the *c*, *e*, *g*, and *c'*, if it has once become acquainted with these notes apart. And so on through the whole field of our experience, whether conceptual or sensible. Neither common sense nor commonplace psychology finds anything special to explain in these facts. Common sense simply says the mind "brings the things together," and common psychology says the "ideas" of the various things "combine," and at most will admit that the occasions on which ideas combine may be made the subject of inquiry. But to formulate the phenomenon of knowing things together thus as a combining of ideas, is already to foist in a theory

about the phenomenon simply. Not so should a question be approached. The phenomenon offers itself, in the first instance, as that of *knowing things together*; and it is in those terms that its solution must, in the first instance at least, be sought.

"Things," then; to "know" things; and to know the "same" things "together" which elsewhere we knew singly—here, indeed, are terms concerning each of which we must put the question, "What do we *mean* by it when we use it?"—that question that Shadworth Hodgson lays so much stress on, and that is so well taught to students, as the beginning of all sound method, by our colleague Fullerton. And in exactly ascertaining what we do mean by such terms there might lie a lifetime of occupation.

For we do mean something; and we mean something true. Our terms, whatever confusion they may connote, denote at least a fundamental fact of our experience, whose existence no one here present will deny.

II

What, then, do we mean by "things"? To this question I can only make the answer of the idealistic philosophy.¹ For the philosophy that began with Berkeley, and has led up in our tongue to Shadworth Hodgson, things have no other nature than thoughts have, and we know of no things that are

[¹This view James later modifies. The "radical empiricism" which he later formulates "has, in fact, more affinities with natural realism than with the views of Berkeley or of Mill" (*Essays in Radical Empiricism*, 1912, p. 76). Ed.]

not given to somebody's experience. When I see the thing white paper before my eyes, the nature of the thing and the nature of my sensations are one. Even if with science we supposed a molecular architecture beneath the smooth whiteness of the paper, that architecture itself could only be defined as the stuff of a farther possible experience, a vision, say, of certain vibrating particles with which our acquaintance with the paper would terminate if it were prolonged by magnifying artifices not yet known. A thing may be my phenomenon or some one else's; it may be frequently or infrequently experienced; it may be shared by all of us; one of our copies of it may be regarded as the original, and the other copies as representatives of that original; it may appear very differently at different times; but whatever it be, the stuff of which it is made is thought-stuff, and whenever we speak of a thing that is out of our own mind, we either mean nothing; or we mean a thing that was or will be in our own mind on another occasion; or, finally, we mean a thing in the mind of some other possible receiver of experiences like ours.

Such being "things," what do we mean by saying that we "know" them?

There are two ways of knowing things, knowing them immediately or intuitively, and knowing them conceptually or representatively. Although such things as the white paper before our eyes can be known intuitively, most of the things we know, the tigers now in India, for example, or the scholastic

system of philosophy, are known only representatively or symbolically.

Suppose, to fix our ideas, that we take first a case of conceptual knowledge; and let it be our knowledge of the tigers in India, as we sit here. Exactly what do we *mean* by saying that we here know the tigers? What is the precise fact that the cognition so confidently claimed is *known-as*, to use Shadworth Hodgson's inelegant but valuable form of words?

Most men would answer that what we mean by knowing the tigers is having them, however absent in body, become in some way present to our thought; or that our knowledge of them is known as presence of our thought to them. A great mystery is usually made of this peculiar presence in absence; and the scholastic philosophy, which is only common sense grown pedantic, would explain it as a peculiar kind of existence, called *intentional inexistence*, of the tigers in our mind. At the very least, people would say that what we mean by knowing the tigers is mentally *pointing* towards them as we sit here.

But now what do we mean by *pointing*, in such a case as this? What is the pointing known-as, here?

To this question I shall have to give a very prosaic answer—one that traverses the prepossessions not only of common sense and scholasticism, but also those of nearly all the epistemological writers whom I have ever read. The answer, made brief, is this: The pointing of our thought to the

tigers is known simply and solely as a procession of mental associates and motor consequences that follow on the thought, and that would lead harmoniously, if followed out, into some ideal or real context, or even into the immediate presence, of the tigers. It is known as our rejection of a jaguar, if that beast were shown us as a tiger; as our assent to a genuine tiger if so shown. It is known as our ability to utter all sorts of propositions which don't contradict other propositions that are true of the real tigers. It is even known, if we take the tigers very seriously, as actions of ours which may terminate in directly intuited tigers, as they would if we took a voyage to India for the purpose of tiger-hunting and brought back a lot of skins of the striped rascals which we had laid low. In all this there is no self-transcendancy in our mental images taken by themselves. They are one physical fact; the tigers are another; and their pointing to the tigers is a perfectly commonplace physical relation, if you once grant a connecting world to be there. In short, the ideas and the tigers are in themselves as loose and separate, to use Hume's language, as any two things can be; and pointing means here an operation as external and adventitious as any that nature yields.¹

¹A stone in one field may "fit," we say, a hole in another field. But the relation of "fitting," so long as no one carries the stone to the hole and drops it in, is only one name for the fact that such an act may happen. Similarly with the knowing of the tigers here and now. It is only an anticipatory name for a further associative and terminative process that may occur.

I hope you may agree with me now that in representative knowledge there is no special inner mystery, but only an outer chain of physical or mental intermediaries connecting thought and thing. *To know an object is here to lead to it through a context which the world supplies.* All this was most instructively set forth by our colleague Miller, of Bryn Mawr, at our meeting in New York last Christmas, and for re-confirming my sometime wavering opinion, I owe him this acknowledgment.¹

Let us next pass on to the case of immediate or intuitive acquaintance with an object, and let the object be the white paper before our eyes. The thought-stuff and the thing-stuff are here indistinguishably the same in nature, as we saw a moment since, and there is no context of intermediaries or associates to stand between and separate the thought and thing. There is no "presence in absence" here, and no "pointing," but rather an all-round embracing of the paper by the thought; and it is clear that the knowing cannot now be explained exactly as it was when the tigers were its object. Dotted all through our experience are states of immediate acquaintance just like this. Somewhere our belief always does rest on ultimate data like the whiteness, smoothness, or squareness of this paper. Whether such qualities be truly ultimate aspects of being or only provisional suppositions of ours, held-to till

¹ See also Dr. Miller's article on "Truth and Error," in the *Philosophical Review*, July, 1893.

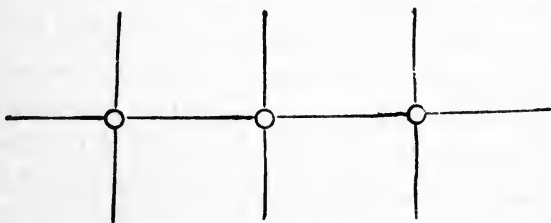
we get better informed, is quite immaterial for our present inquiry. So long as it is believed in, we see our object face to face. What now do we mean by "knowing" such a sort of object as this? For this is also the way in which we should know the tiger if our conceptual idea of him were to terminate by having led us to his lair.

This address must not become too long, so I must give my answer in the fewest words. And let me first say this: So far as the white paper or other ultimate datum of our experience is considered to enter also into some one else's experience, and we, in knowing it, are held to know it there as well as here; so far again as it is considered to be a mere mask for hidden molecules that other now impossible experiences of our own might some day lay bare to view; so far it is a case of tigers in India again—the things known being absent experiences, the knowing can only consist in passing smoothly towards them through the intermediary context that the world supplies. But if our own private vision of the paper be considered in abstraction from every other event, as if it constituted by itself the universe (and it might perfectly well do so, for aught we can understand to the contrary), then the paper seen and the seeing of it are only two names for one indivisible fact which, properly named, is *the datum, the phenomenon, or the experience*. The paper is in the mind and the mind is around the paper, because paper and mind are only two names that are given later to the one experience, when,

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taken in a larger world of which it forms a part, its connections are traced in different directions.¹ *To know immediately, then, or intuitively, is for mental content and object to be identical.* This is a very different definition from that which we gave of representative knowledge; but neither definition involves those mysterious notions of self-transcendency and presence in absence which are such essential parts of the ideas of knowledge, both of common men and of philosophers. Is there no experience that can justify these notions, and show us somewhere their original?

¹ What is meant by this is that "the experience" can be referred to either of two great associative systems, that of the experiencer's mental history, or that of the experienced facts of the world. Of both of these systems it forms part, and may be regarded, indeed, as one of their points of intersection. One



might let a vertical line stand for the mental history; but the same object, O, appears also in the mental history of different persons, represented by the other vertical lines. It thus ceases to be the private property of one experience, and becomes, so to speak, a shared or public thing. We can track its outer history in this way, and represent it by the horizontal line. [It is also known representatively at other points of the vertical lines, or intuitively there again, so that the line of its outer history would have to be looped and wandering, but I make it straight for simplicity's sake.] In any case, however, it is the same *stuff* that figures in all the sets of lines.

I think the mystery of presence in absence (though we fail to find it between one experience and another remote experience to which it points, or between the "content" and "object" of any one experience falsely rent asunder by the application to it of these two separate names) may yet be found, and found between the parts of a single experience. Let us look for it, accordingly, in its simplest possible form. What is the smallest experience in which the mystery remains? If we seek, we find that there is no datum so small as not to show the mystery. The smallest effective pulse of consciousness, whatever else it may be consciousness of, is also consciousness of passing time. The tiniest feeling that we can possibly have involves for future reflection two sub-feelings, one earlier and the other later, and a sense of their continuous procession. All this has been admirably set forth by Mr. Shadworth Hodgson,¹ who shows that there is literally no such datum as that of the present moment, and no such content, and no such object, except as an unreal postulate of abstract thought. The *passing* moment is the only thing that ever concretely was or is or shall be; and in the phenomenon of elementary memory, whose function is to apprehend it, earlier and later are present to each other in an experience that feels either only on condition of feeling both together.

We have the same knowing together in the matter that fills the time. The rush of our thought forward through its fringes is the everlasting peculiar-

¹ *Philosophy of Reflection*, Vol. I., p. 248 ff.

ity of its life. We realize this life as something always off its balance, something in transition, something that shoots out of a darkness through a dawn into a brightness that we know to be the dawn fulfilled. In the very midst of the alteration our experience comes as one continuous fact. "Yes," we say at the moment of full brightness, *this* is what I meant. No, we feel at the moment of the dawning, this is not yet the meaning, there is more to come. In every crescendo of sensation, in every effort to recall, in every progress towards the satisfaction of desire, this succession of an emptiness and fulness that have reference to each other and are one flesh is the essence of the phenomenon. In every hindrance of desire the sense of ideal presence of what is absent in fact, of an absent, in a word, which the only function of the present is to *mean*, is even more notoriously there. And in the movement of thoughts not ordinarily classed as involving desire, we have the same phenomenon. When I say *Socrates is mortal*, the moment *Socrates* is incomplete; it falls forward through the *is* which is pure movement, into the *mortal*, which is indeed bare mortal on the tongue, but for the mind, is *that mortal*, the *mortal Socrates*, at last satisfactorily disposed of and told off.

Here, then, inside of the minimal pulse of experience which, taken as object, is change of feeling, and, taken as content, is feeling of change, is realized that absolute and essential self-transcendence which we swept away as an illusion when

we sought it between a content taken as a whole and a supposed objective thing outside. *Here in the elementary datum of which both our physical and our mental worlds are built, we find included both the original of presence in absence and the prototype of that operation of knowing many things together which it is our business to discuss.*¹ For the fact that past and future are already parts of the least experience that can really be, is just like what we find in any other case of an experience whose parts are many. Most of these experiences

¹ It seems to me that we have here something like what comes before us in the psychology of space and time. Our original intuition of space is the single field of view; our original intuition of time covers but a few seconds; yet by an ideal piecing together and construction we frame the notions of immensity and eternity, and suppose dated events and located things therein, of whose actual intervals we grasp no distinct idea. So in the case before us. The way in which the constituents of one undivided datum drag each other in and run into one, saying *this* is what *that* means, gives us our original intuition of what knowing is. That intuition we extend and constructively build up into the notion of a vast tissue of knowledge, shed along from experience to experience until, dropping the intermediary data from our thought, we assume that terms the most remote still know each other, just after the fashion of the parts of the prototypal fact. Cognition here is only constructive, as we have already seen. But he who should say, arguing from its nature here, that it nowhere is direct, and seek to construct it without an originally given pattern, would be like those psychologists who profess to develop our idea of space out of the association of data that possess no original extensivity. Grant the *sort* of thing that is meant by presence in absence, by self-transcendency, by reference to another, by pointing forward or back, by knowledge in short, somewhere in our experience, be it in ever so small a corner, and the construction of pseudo-cases elsewhere follows as a matter of course. But to get along without the real thing *anywhere* seems difficult indeed.

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are of objects perceived to be simultaneous and not to be immediately successive as in the heretofore considered case. The field of view, the chord of music, the glass of lemonade are examples. But the gist of the matter is the same—it is always knowing-together. You cannot separate the consciousness of one part from that of all the rest. What is given is pooled and mutual; there is no dark spot, no point of ignorance; no one fraction is eclipsed from any other's point of view. Can we account for such a being-known-together of complex facts like these?

The general *nature* of it we can probably never account for, or tell how such a unity in manyness can be, for it seems to be the ultimate essence of all experience, and anything less than it apparently cannot be at all. But the particular *conditions* whereby we know particular things together might conceivably be traced, and to that humble task I beg leave to devote the time that remains.

III

Let me say forthwith that I have no pretension to give any positive solution. My sole ambition now is, by a little classification, to smoothe the ground somewhat so that some of you, more able than I, may be helped to advance, before our next meeting perhaps, to results that I cannot obtain.

Now, the first thing that strikes us in these complex cases is that the condition by which one thing

may come to be known together with other things is an *event*. It is often an event of the purely physical order. A man walks suddenly into my field of view, and forthwith becomes part of it. I put a drop of cologne-water on my tongue, and, holding my nostrils, get the taste of it alone, but when I open my nostrils I get the smell together with the taste in mutual suffusion. Here it would seem as if a sufficient condition of the knowing of (say) three things together were the fact that the three several physical conditions of the knowing of each of them were realized at once. But in many other cases we find on the contrary that the physical conditions are realized without the things being known together at all. When absorbed in experiments with the cologne-water, for example, the clock may strike, and I not know that it has struck. But again, some seconds after the striking has elapsed, I may, by a certain shifting of what we call my attention, hark back to it and resuscitate the sound, and even count the strokes in memory. The condition of knowing the clock's striking is here an event of the mental order which must be added to the physical event of the striking before I can know it and the cologne-water at once. Just so in the field of view I may entirely overlook and fail to notice even so important an object as a man, until the inward event of altering my attention makes me suddenly see him with the other objects there. In those curious phenomena of dissociation of consciousness with which recent studies of hypnotic,

hysteric and trance states have made us familiar (phenomena which surely throw more new light on human nature than the work of all the psychophysical laboratories put together), the event of hearing a "suggestion," or the event of passing into trance or out of it, is what decides whether a human figure shall appear in the field of view or disappear, and whether a whole set of memories shall come before the mind together, along with its other objects, or be excluded from their company. There is in fact no possible object, however completely fulfilled may be the outer condition of its perception, whose entrance into a given field of consciousness does not depend on the additional inner event called attention.

Now, it seems to me that this need of a final inner event, over and above the mere sensorial conditions, quite refutes and disposes of the associationist theory of the unity of consciousness. By associationist theory, I mean any theory that says, either implicitly or explicitly, that for a lot of objects to be known together, it suffices that a lot of conscious states, each with one of them as its content, should exist, as James Mill says, "synchronically." Synchronical existence of the ideas does not suffice, as the facts we now have abundantly show. Gurney's, Binet's, and Janet's proofs of several dissociated consciousnesses existing synchronically, and dividing the subject's field of knowledge between them, is the best possible refutation of any such view.

Union in consciousness must be *made* by something, must be brought about; and to have perceived this truth is the great merit of the anti-associationist psychologists.¹ The form of unity, they have obstinately said, must be specially accounted for; and the form of unity the radical associationists have as obstinately shied away from and ignored, though their accounts of those preliminary conditions that supply the matters to be united have never been surpassed. As far as these go, we are all, I trust, associationists, and reverers of the names of Hartley, Mill, and Bain.

Let us now rapidly review the chief attempts of the anti-associationists to fill the gap they discern so well in the associationist tale.

1. *Attention*.—Attention, we say, by turning to an object, includes it with the rest; and the naming of this faculty in action has by some writers been considered a sufficient account of the decisive “event.”² But it is plain that the act of Attention

¹ In this rapid paper I content myself with arguing from the experimental fact that something *happens* over and above the realization of sensorial conditions, wherever an object adds itself to others already “before the mind.” I say nothing of the logical self-contradiction involved in the associationist doctrine that the two facts, “A is known,” and “B is known,” *are* the third fact, “A + B are known together.” Those whom the criticisms already extant in print of this strange belief have failed to convince, would not be persuaded, even though one rose from the dead. The appeal to the actual facts of dissociation may make impression, however, even on such hardened hearts as theirs.

² It might seem natural to mention Wundt’s doctrine of “Apperception” here. But I must confess my inability to say anything about it that would not resolve itself into a tedious com-

itself needs a farther account to be given, and such an account is what other theories of the event implicitly give.

We find four main types¹ of other theory of how particular things get known together, a physiologi-cal, a psychological, an animistic, and a transcendentalist type. Of the physiological or "psycho-physical" type many varieties are possible, but it must be observed that none of them pretends to assign anything more than an empirical law. A psycho-physical theory can couple certain antecedent conditions with their result; but an explanation, in the sense of an inner reason why the result should have the nature of one content with many parts instead of some entirely different nature, is what a psycho-physical theory cannot give.²

parison of texts. Being alternately described as intellection, will, feeling, synthesis, analysis, principle and result, it is too "protean" a function to lend itself to any simplified account at second hand.

¹ It is only for the sake of completeness that we need mention such notions of a sort of mechanical and chemical activity between the ideas as we find in Herbart, Steinthal, and others. These authors see clearly that mere synchronical existence is not combination, and attribute to the ideas of dynamic influences upon each other; pressures and resistances according to Herbart, and according to Steinthal "psychic attractions." But the philosophical foundations of such physical theories have been so slightly discussed by their authors that it is better to treat them only as rhetorical metaphors and pass on. Herbart, moreover, must also be mentioned later, along with the animistic writers.

² We find this impotence already when we seek the conditions of the passing pulse of consciousness, which, as we saw, always involves time and change. We account for the passing pulse, physiologically, by the overlapping of dying and dawning

2. *Reminiscence*. — Now, empirically, we have learned that things must be known in succession and singly before they can be known together.¹ If A, B, and C, for example, were outer things that came for the first time and affected our senses all at once, we should get one content from the lot of them and make no discriminations. The content would symbolically point to the objects A, B, C, and eventually terminate there, but would contain no parts that were immediately apprehended as standing for A, B, and C severally. Let A, B, and C stand for pigments, or for a tone and its overtones, and you will see what I mean when I say that the first result on consciousness of their falling together on the eye or ear would be a single new kind of feeling rather than a feeling with three kinds of inner part. Such a result has been ascribed to a “fusion” of the three feelings of A, B, and C; but there seems no ground for supposing that, under the conditions assumed, these distinct feelings have ever been aroused at all. I should call the phenomenon one of *indiscriminate knowing together*, for the most

brain-processes; and at first sight the elements time and change, involved in both the brain-processes and their mental result, give a similarity that, we feel, might be the real reason for the psycho-physic coupling. But the moment we ask “meta-physical” questions—“Why not each brain-process felt apart?—Why just this amount of time, neither more nor less?” etc., etc.—we find ourselves falling back on the empirical view as the only safe one to defend.

¹ The latest empirical contribution to this subject, with which I am acquainted, is Dr. Herbert Nichols’s excellent little monograph, *Our Notions of Number and Space*. Boston: Ginn & Co., 1894.

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we can say under the circumstances is that the content resembles somewhat each of the objects A, B, and C, and knows them each potentially, knows them, that is, by possibly leading to each smoothly hereafter, as we know Indian tigers even whilst sitting in this room.

But if our memory possess stored-up images of former A-s, B-s, and C-s, experienced in isolation, we get an altogether different content, namely, one through which we know A, B, and C together, and yet know each of them in discrimination through one of the content's own parts. This has been called a "colligation" or *Verknüpfung* of the "ideas" of A, B, and C, to distinguish it from the aforesaid fusion. Whatever we may call it, we see that its physiological condition is more complex than in the previous case. In both cases the outer objects, A, B, and C, exert their effects on the sensorium. But in this case there is a co-operation of higher tracts of memory which in the former case was absent. *Discriminative knowing-together, in short, involves higher processes of reminiscence.* Do these give the element of manyness, whilst the lower sensorial processes that by themselves would result in mere "fusion," give the unity to the experience? The suggestion is one that might repay investigation, although it has against it two pretty solid objections: first, that in man the consciousness attached to infra-cortical centres is altogether subliminal, if it exist; and, second, that in the cortex itself we have not yet discriminated sensorial from ideational

processes. Possibly the frontal lobes, in which Wundt has supposed an *Apperceptionsorgan*, might serve a turn here. In any case it is certain that, into our present rough notions of the cortical functions, the future will have to weave distinctions at present unknown.

3. *Synergy*.—The theory that, physiologically, the oneness precedes the manyness, may be contrasted with a theory that our colleagues Baldwin and Münsterberg are at present working out, and which places the condition of union of many data into one datum, in the fact that the many pour themselves into one motor discharge. The motor discharge being the last thing to happen, the condition of manyness would physiologically here precede and that of oneness follow. A printed word is apprehended as one object, at the same time that each letter in it is apprehended as one of its parts. Our secretary, Cattell, long ago discovered that we recognize words of four or five letters by the eye as quickly, or even more quickly, than we recognize single letters. Recognition means here the motor process of articulation; and the quickness comes from the fact that all the letters in the particular combination unhesitatingly co-operate in the one articulatory act. I suppose such facts as these to lie at the base of our colleagues' theories, which probably differ in detail, and which it would be manifestly unjust to discuss or guess about in advance of their completer publication. Let me only say that I hope the latter may not be long delayed.

These are the only types of physiological theory worthy of mention. I may next pass to what, for brevity's sake, may be called *psychological accounts* of the event that lets an object into consciousness, or, by not occurring, leaves it out. These accounts start from the fact that what figures as part of a larger object is often perceived to have relations to the other parts. Accordingly the event in question is described as an *act of relating thought*. It takes two forms.

4. *Relating to Self*.—Some authors say that nothing can enter consciousness except on condition that it be related to the self. Not *object*, but *object-plus-me*, is the minimum knowable.

5. *Relating to other Objects*.—Others think it enough if the incoming object be related to the other objects already there. To fail to appear related is to fail to be known at all. To appear related is to appear with other objects. If relations were correlates of special cerebral processes, the addition of these to the sensorial processes would be the wished-for event. But brain physiology as yet knows nothing of such special processes, so I have called this explanation purely psychological. There seem to be fatal objections to it as a universal statement, for the reference to self, if it exist, must in a host of cases be altogether subconscious; and introspection assures us that in many half-waking and half-drunken states the relations between things that we perceive together may be of the dimmest and most indefinable kind.

7 6. *The Individual Soul*.—So we next proceed to the animistic account. By this term I mean to cover every sort of individualistic soul-theory. I will say nothing of older opinions; but in modern times we have two views of the way in which the union of a many by a soul occurs. For Herbart, for example, it occurs because the soul itself is unity, and all its *Selbsterhaltungen* are obliged to necessarily share this form. For our colleague Ladd, on the other hand, to take the best recent example, it occurs because the soul, which is a real unity indeed, furthermore performs a unifying act on the naturally separate data of sense—an act, moreover, for which no psycho-physical analogon can be found. It must be admitted that much of the reigning bias against the soul in so-called scientific circles is an unintelligent prejudice, traceable far more to a vague impression that it is a theological superstition than to exact logical grounds. The soul is an “entity,” and, indeed, that worst sort of entity, a “scholastic entity”; and, moreover, it is something to be damned or saved; so let’s have no more of it! I am free to confess that in my own case the antipathy to the soul with which I find myself burdened is an ancient hardness of heart of which I can frame no fully satisfactory account even to myself. I passively agree that if there were souls that we could use as principles of explanation, the formal settlement of the questions now before us could run far more smoothly towards its end. I admit that a soul is a medium of union, and that

brain-processes and ideas, be they never so "synchronical," leave all mediating agency out. Yet, in spite of these concessions, I never find myself actively taking up the soul, so to speak, and making it to do work in my psychologizing. I speak of myself here because I am one amongst many, and probably few of us can give adequate reasons for our dislike. The more honor to our colleague from Yale, then, that he remains so unequivocally faithful to this unpopular principle! And let us hope that his forthcoming book may sweep what is blind in our hostility away.¹

But all is not blind in our hostility. When, for example, you say that A, B, and C, which are distinct contents on other occasions, are now on this occasion joined into the compound content ABC by a unifying act of the soul, you say little more than that now they *are* united, unless you give some hint as to *how* the soul unites them. When, for example,

¹ I ought, perhaps, to apologize for not expunging from my printed text these references to Professor Ladd, which were based on the impression left on my mind by the termination of his *Physiological Psychology*. It would now appear from the paper read by him at the Princeton meeting, and his *Philosophy of Mind*, just published, that he disbelieves in the soul of old-fashioned ontology; and on looking again at the *P. P.*, I see that I may well have misinterpreted his deeper meaning there. I incline to suspect, however, that he had himself not fully disentangled it when that work was written; and that between now and then his thought has been evolving somewhat, as Lotze's did, between his *Medical Psychology* and his *Metaphysic*. It is gratifying to note these converging tendencies in different philosophers; but I leave the text as I read it at Princeton, as a mark of what one could say not so very unnaturally at that date.

the hysteric women which Pierre Janet has studied with such loving care, go to pieces mentally, and their souls are unable any longer to connect the data of their experience together, though these data remain severally conscious in dissociation, what is the condition on which this inability of the soul depends? Is it an impotence in the soul itself? or is it an impotence in the physiological conditions, which fail to stimulate the soul sufficiently to its synthetic task? The *how* supposes on the soul's part a constitution adequate to the act. An hypothesis, we are told in the logic-books, ought to propose a being that has some other constitution and definition than that of barely performing the phenomenon it is evoked to explain. When physicists propose the "ether," for example, they propose it with a lot of incidental properties. But the soul proposed to us has no special properties or constitution of which we are informed. Nevertheless, since particular conditions do determine its activity, it must have a constitution of some sort. In either case, we ought to know the facts. But the soul-doctrine, as hitherto professed, not only doesn't answer such questions, it doesn't even ask them; and it must be radically rejuvenated if it expects to be greeted again as a useful principle in psychological philosophy. Here is work for our spiritualist colleagues, not only for the coming year, but for the rest of their lives.¹

¹The soul can be taken in three ways as a unifying principle. An already existing lot of animated sensations (or other psychic

7. *The World-soul*.—The second spiritualist theory may be named as that of *transcendentalism*. I take it typically and not as set forth by any single author. Transcendentalism explains things by an over-soul of which all separate souls, sensations, thoughts, and data generally are parts. To be, as it would be known together with everything else in the world by this over-soul, is for transcendentalism the *true* condition of each single thing, and to pass into this condition is for things to fulfil their vocation. Such being known together, since it is the innermost reality of life, cannot on transcendentalist principles be explained or accounted for as a work wrought on a previous sort of reality. The monadic soul-theory starts with separate sensational data, and must show how they are *made* one. The transcendentalist theory has rather for its task to show how, being one, they can spuriously and illusorily be made to appear separate. The problem for the

data) may be simply *woven* into one by it; in which case the form of unity is the soul's only contribution, and the original stuff of the Many remains in the One as its stuff also. Or, secondly, the resultant synthetic One may be regarded as an immanent *reaction* of the Soul on the preëxisting psychic Many; and in this case the Soul, in addition to creating the new form, reproduces in itself the old stuff of the Many, superseding it for our use, and making it for us become subliminal, but not suppressing its existence. Or, thirdly, the One may again be the Soul's immanent reaction on a physiological, not on a mental, Many. In this case preëxisting *sensations or ideas* would not be there at all, to be either woven together or superseded. The synthetic One would be a primal psychic datum with parts, either of which might know the same object that a possible sensation, realized under other physiological conditions, could also know.

monadic soul, in short, is that of unification, and the problem for the over-soul is that of insulation. The removal of insulating obstructions would sufficiently account for things reverting to their natural place in the over-soul and being known together. The most natural insulating or individualizing principle to invoke is the bodily organism. As the pipes of an organ let the pressing mass of air escape only in single notes, so do our brains, the organ pipes of the infinite, keep back everything but the slender threads of truth to which they may be pervious. As they obstruct more, the insulation increases, as they obstruct less it disappears. Now transcendental philosophers have as a rule not done much dabbling in psychology. But one sees no abstract reason why they might not go into psychology as fully as any one, and erect a psycho-physical science of the conditions of more separate and less separate cognition which would include all the facts that psycho-physicists in general might discover. And they would have the advantage over other psycho-physicists of not needing to explain the nature of the resultant knowing-together when it should occur, for they could say that they simply begged it as the ultimate nature of the world.

This is as broad a disjunction as I can make of the different ways in which men have considered the conditions of our knowing things together. You will agree with me that I have brought no new insight to the subject, and that I have only gossiped to while away this unlucky presidential

hour to which the constellations doomed me at my birth. But since gossip we have had to have, let me make the hour more gossipy still by saying a final word about the position taken up in my own *Principles of Psychology* on the general question before us, a position which, as you doubtless remember, was so vigorously attacked by our colleague from the University of Pennsylvania at our meeting in New York a year ago.¹ That position consisted in this, that I proposed to simply eliminate from psychology "considered as a natural science" the whole business of ascertaining *how* we come to know things together or to know them at all. Such considerations, I said, should fall to metaphysics. That we do know things, sometimes singly and sometimes together, is a fact. That states of consciousness are the vehicle of the knowledge, and depend on brain states, are two other facts. And I thought that a natural science of psychology might legitimately confine itself to tracing the functional variations of these three sorts of fact, and ascertaining and tracing what determinate bodily states are the condition when the states of mind know determinate things and groups of things. Most states of mind can be designated only by naming what objects they are "thoughts-of," *i.e.*, what things they know.

Most of those which know compound things are utterly unique and solitary mental entities demon-

¹Printed as an article entitled "The Psychological Standpoint," in this [*Psychological*] *Review*, Vol. I., p. 113. (March, 1894.) [The author was G. S. Fullerton. For James's own earlier views, cf. the *Principles* (1890), especially Chaps. VI., IX. Ed.]

strably different from any collection of simpler states to which the same objects might be singly known.¹ Treat them all as unique in entity, I said

¹When they know conceptually they don't even remotely resemble the simpler states. When they know intuitively they resemble, sometimes closely, sometimes distantly, the simpler states. The sour and sweet in lemonade are extremely unlike the sour and sweet of lemon juice and sugar, singly taken, yet like enough for us to "recognize" these "objects" in the compound taste. The several objective "notes" recognized in the chord sound differently and peculiarly there. In a motley field of view successive and simultaneous contrast give to each several tint a different hue and luminosity from that of the "real" color into which it turns when viewed without its neighbors by a rested eye. The difference is sometimes so slight, however, that we overlook the "representative" character of each of the parts of a complex content, and speak as if the latter were a cluster of the original "intuitive" states of mind that, occurring singly, know the "object's" several parts in separation. Professor Meinong, for example, even after the true state of things had been admirably set forth by Herr H. Cornelius (in the *Vierteljahrschrift f. wiss. Phil.*, XVI., 404; XVII., 30), returns to the defence of the radical associationist view (in the *Zeitschrift f. Psychologie*, VI., 340, 417). According to him, the single sensations of the several notes lie unaltered in the chord-sensations; but his analysis of the phenomenon is vitiated by his non-recognition of the fact that the *same objects* (i.e., the notes) *can be known* representatively through one compound state of mind, and directly in several simple ones, without the simple and the compound states having strictly anything in common with each other. In Meinong's earlier work, *Ueber Begriff und Eigenschaften der Empfindung* (*Vierteljahrschrift*, Vol. XII.), he seems to me to have hit the truth much better, when he says that the aspect *color*, e.g., in a concrete sensation of *red*, is not an abstractable *part* of the sensation, but an *external relation of resemblance* between that sensation and other sensations to the whole lot of which we give the name of colors. Such, I should say, are the aspects of *c*, *e*, *g* and *c'* in the chord. We may call them *parts* of the chord if we like, but they are not *bits* of it, identical with *c*'s, *e*'s, *g*'s, and *c*'s elsewhere. They simply resemble the *c*'s, *e*'s, *g*'s, and *c*'s elsewhere, and know these contents or objects representatively.

then; let their complexity reside in their plural cognitive function; and you have a psychology which, if it doesn't ultimately explain the facts, also does not, in expressing them, make them self-contradictory (as the associationist psychology does when it calls them many ideas fused into one idea) or pretend to explain them (as the soul-theory so often does) by a barren verbal principle.

My intention was a good one, and a natural science infinitely more complete than the psychologies we now possess could be written without abandoning its terms. Like all authors, I have, therefore, been surprised that this child of my genius should not be more admired by others—should, in fact, have been generally either misunderstood or despised. But do not fear that on this occasion I am either going to defend or to re-explain the bantling. I am going to make things more harmonious by simply *giving it up*.¹ I have become convinced since publishing that book that no conventional restrictions *can* keep metaphysical and so-called epistemological inquiries out of the psychology books. I see, moreover, better now than then that my proposal to designate mental states merely by their cognitive function leads to a somewhat strained way of talking of dreams and reveries, and to quite an unnatural way of talking of some emotional states. I am willing, consequently, henceforward that men-

[¹ But cf. *Pluralistic Universe* (1909), p. 338, note, where it appears that he does not abandon his earlier view unqualifiedly. Ed.]

tal contents should be called complex, just as their objects are, and this even in psychology. Not because their parts are separable, as the parts of objects are, not because they have an eternal or quasi-eternal individual existence, like the parts of objects; for the various "contents" of which they are parts are integers, existentially, and their parts only live as long as *they* live. Still, *in* them, we can call parts, parts.—But when, without circumlocution or disguise, I thus come over to your views, I insist that those of you who applaud me (if any such there be) should recognize the obligations which the new agreement imposes on yourselves. Not till you have dropped the old phrases, so absurd or so empty, of ideas "self-compounding" or "united by a spiritual principle"; not till you have in your turn succeeded in some such long inquiry into conditions as the one I have just failed in; not till you have laid bare more of the nature of that altogether unique kind of complexity in unity which mental states involve; not till then, I say, will psychology reach any real benefit from the conciliatory spirit of which I have done what I can to set an example.

XXVII

DEGENERATION AND GENIUS¹

[1895]

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IF the reviewer might now say a word of the result left on his own mind by reading the genius-controversy, it would run something like this: Moreau, Lombroso & Co. have done excellent service in destroying the classic view of genius as something superhuman and flawless. By their ferreting and prying and general devil's advocacy, they have helped us to an acquaintance with human nature *in concreto*, which from every point of view is superior to our old-fashioned academic notions. Lombroso in particular has put us in his debt by his studies of individual fanatics and "mattoids." But there the service stops, for (except in Nordau's case) these authors are incapable of logical or psychological analysis; and the only conclusion that their facts make more clear than ever—the conclusion, namely, that there are no incompatibles in human nature, and that any random combination of

[¹The concluding paragraphs of a series of notices and reviews of J. Dallemagne's *Dégénérés et Déséquilibrés*, C. Lombroso's *Entartung und Genie*, M. Nordau's *Degeneration* and W. Hirsch's *Genie und Entartung*. Reprinted from *Psychological Review*, 1895, 2, 292-294. Ed.]

mental elements that can be conceived may also be realized in some individual—is one that they do not draw. If we are to make of genius a psychological conception at all, it must be a property of *intellect* rather than of will or feeling. Narrowed in this way, Professor Bain's description of it, as an unusual tendency to associate by similarity (a description with which none of our authors seem acquainted), will stand firm. But it is one thing to have this intellectual condition of genius and another to become effective in history *as* a genius, and to figure in biographical dictionaries. We all know intellects of first-rate original quality whose names are written in water because of the inferiority of the other elements of their nature, their lack of remote ideals and unifying aims, of passion and of staying power. On the other hand we know moderate intellects who become effective and even famous in the world's work because of their force of character, their passionate interests and doggedness of will. To *do* anything with one's genius requires passion; to do much requires doggedness. Hence it comes that the intense sensibility of the psychopathic temperament, when it *adds* itself to a first-rate intellect, greatly increases the chances that the latter will bear effective fruits. To be liable to obsession by ideas, not to be able to rest till they are "worked off," ought then to be, as they indeed are, traits of character often found amongst the men whose names figure as those of geniuses in the cyclopedias. But these traits have no essential con-

nection with the sort of intellect that makes the men geniuses. We may find them combined with any sort of intellect, as we find first-rate intellect combined with any sort of character. The names of Emerson, Longfellow, Lowell, Whittier, and Holmes would probably be those first written by any one who should be asked for a list of the geniuses of the community in which I write. Although belonging to the class of poets (the species of genius most akin to psychopathy by the sensibility it demands), these men were all distinguished for balance of character and common sense. So Schiller, so Browning, so George Sand. In poets like Shelley, Poe, de Musset, on the other hand, we have the intellectual and passionate gifts without the powers of inhibition. In the sphere of action we have a similar diversity of mixture: we find the all-round men like Washington, Cavour, and Gladstone; the great intellects and wills with no hearts, like Frederick the Great; the intense hearts and wills with narrow intellects, like Garibaldi and John Brown; the stubborn wills with mediocre hearts and intellects, like George III. or Philip II.; and, finally, the real cranks and half-insane fanatics, often with much of the equipment of effective genius except a normal set of "ideas." It all depends on the mixture; only as the elements vary independently, the chances that a freak of nature in the line of human greatness will be as exceptionally strong in all three elements of character as he is in any one of them, are small. Hence some lop-sided-

ness in almost all distinguished personages, hence the rarity of the Dantes, St. Bernards, and Goethes among the children of men.

One more word : there is a strong tendency among these pathological writers to represent the line of mental health as a very narrow crack, which one must tread with bated breath, between foul fiends on the one side and gulfs of despond on the other. Now, health is a term of subjective appreciation, not of objective description, to borrow a nomenclature from Professor Royce : it is a teleological term. There is no purely objective standard of sound health. Any peculiarity that is of use to a man is a point of soundness in him, and what makes a man sound for one function may make him unsound for another. Moreover, we are all instruments for social use ; and if sensibilities, obsessions, and other psychopathic peculiarities can so combine with the rest of our constitution as to make us the more useful to our kind, why then we should not call them in that context points of unhealthiness, but rather the reverse.

The trouble is that such writers as Nordau use the descriptive names of symptoms merely as an artifice for giving objective authority to their personal dislikes. The medical terms become mere "appreciative" clubs to knock men down with. Call a man a "cad" and you've settled his social status. Call him a "degenerate," and you've grouped him with the most loathsome specimens of the race, in spite of the fact that he may be one of its most

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precious members. The only sort of being, in fact, who can remain as the typical normal man, after all the individuals with degenerative symptoms have been rejected, must be a perfect nullity. He must, it is true, be able to perform the necessities of nature and adapt himself to his environment so as to come in when it rains; but being free from all the excesses and superfluities that make Man's life interesting, without love, poetry, art, religion, or any other ideal than pride in his non-neurotic constitution, he is the human counterpart of that "temperance" hotel of which the traveller's handbook said, "It possesses no other quality to recommend it." We all remember the sort of school-boy who used to ask us six times a day to feel of his biceps. The sort of man who pounds his mental chest and says to us, "See, there isn't a morbid fibre in my composition!" is like unto him. Few more profitless members of the race can be found. The real lesson of the genius-books is that we should welcome sensibilities, impulses, and obsessions if we have them, so long as by their means the field of our experience grows deeper and we contribute the better to the race's stores; that we should broaden our notion of health instead of narrowing it; that we should regard no single element of weakness as fatal—in short, that we should not be afraid of life.

XXVIII

PHILOSOPHICAL CONCEPTIONS AND PRACTICAL RESULTS ¹

[1898]

AN occasion like the present would seem to call for an absolutely untechnical discourse. I ought to speak of something connected with life rather than with logic. I ought to give a message with a practical outcome and an emotional musical accompaniment, so to speak, fitted to interest men as men, and yet also not altogether to disappoint philosophers—since philosophers, let them be as queer as they will,

[¹ Reprinted from *The University Chronicle* (Berkeley, California) September, 1898. An address delivered before the Philosophical Union of the University of California on August 26, 1898. It was reprinted with slight verbal revision, and with omission of first three pages, and concluding paragraph, in *Journal of Philosophy, Psychology, and Scientific Methods*, 1904, 1, 673–687, under the title of “The Pragmatic Method.” Afterwards most of pages 410–411 was used in the *Varieties of Religious Experience* (1902), p. 444; and pp. 415–424 were reprinted with further slight revision in *Pragmatism* (1907), pp. 97–108. This article marks the beginning of the pragmatist movement. Nine years later, speaking of the pragmatist principle which he attributed to Charles Peirce, James wrote: “It lay entirely unnoticed by any one for twenty years, until I, in an address before Professor Howison’s philosophical union at the University of California, brought it forward again and made a special application of it to religion. By that date (1898) the times seemed ripe for its reception. The word ‘pragmatism’ spread, and at present it fairly spots the pages of the philosophical journals” (*Pragmatism*, 1907, p. 47. Ed.]

still are men in the secret recesses of their hearts, even here at Berkeley. I ought, I say, to produce something simple enough to catch and inspire the rest of you, and yet with just enough of ingenuity and oddity about it to keep the members of the Philosophical Union from yawning and letting their attention wander away.

I confess that I have something of this kind in my mind, a perfectly ideal discourse for the present occasion. Were I to set it down on paper, I verily believe it would be regarded by everyone as the final word of philosophy. It would bring theory down to a single point, at which every human being's practical life would begin. It would solve all the antinomies and contradictions, it would let loose all the right impulses and emotions; and everyone, on hearing it, would say, "Why, that *is* the truth!—*that* is what I have been believing, that is what I have really been living on all this time, but I never could find the words for it before. All that eludes, all that flickers and twinkles, all that invites and vanishes even whilst inviting, is here made a solidity and a possession. Here is the end of unsatisfactoriness, here the beginning of unimpeded clearness, joy, and power." Yes, my friends, I have such a discourse within me! But, do not judge me harshly, I cannot produce it on the present occasion. I humbly apologize; I have come across the continent to this wondrous Pacific Coast—to this Eden, not of the mythical antiquity, but of the solid future of mankind—I ought to give you something worthy

of your hospitality, and not altogether unworthy of your great destiny, to help cement our rugged East and your wondrous West together in a spiritual bond,—and yet, and yet, and yet, I simply cannot. I have tried to articulate it, but it will not come. Philosophers are after all like poets. They are pathfinders. What every one can feel, what every one can know in the bone and marrow of him, they sometimes can find words for and express. The words and thoughts of the philosophers are not exactly the words and thoughts of the poets—worse luck. But both alike have the same function. They are, if I may use a simile, so many spots, or blazes,—blazes made by the axe of the human intellect on the trees of the otherwise trackless forest of human experience. They give you somewhere to go from. They give you a direction and a place to reach. They do not give you the integral forest with all its sunlit glories and its moonlit witcheries and wonders. Ferny dells, and mossy waterfalls, and secret magic nooks escape you, owned only by the wild things to whom the region is a home. Happy they without the need of blazes! But to us the blazes give a sort of ownership. We can now use the forest, wend across it with companions, and enjoy its quality. It is no longer a place merely to get lost in and never return. The poet's words and the philosopher's phrases thus are helps of the most genuine sort, giving to all of us hereafter the freedom of the trails they made. Though they create nothing, yet for this marking and fixing function

of theirs we bless their names and keep them on our lips, even whilst the thin and spotty and half-casual character of their operations is evident to our eyes.

No one like the pathfinder himself feels the immensity of the forest, or knows the accidentality of his own trails. Columbus, dreaming of the ancient East, is stopped by poor pristine simple America, and gets no farther on that day; and the poets and philosophers themselves know as no one else knows that what their formulas express leaves unexpressed almost everything that they organically divine and feel. So I feel that there is a centre in truth's forest where I have never been: to track it out and get there is the secret spring of all my poor life's philosophic efforts; at moments I almost strike into the final valley, there is a gleam of the end, a sense of certainty, but always there comes still another ridge, so my blazes merely circle towards the true direction; and although now, if ever, would be the fit occasion, yet I cannot take you to the wondrous hidden spot to-day. To-morrow it must be, or to-morrow, or to-morrow, and pretty surely death will overtake me ere the promise is fulfilled.

Of such postponed achievements do the lives of all philosophers consist. Truth's fulness is elusive; ever not quite, not quite! So we fall back on the preliminary blazes—a few formulas, a few technical conceptions, a few verbal pointers—which at least define the initial direction of the trail. And that, to my sorrow, is all that I can do here at Berkeley

to-day. Inconclusive I must be, and merely suggestive, though I will try to be as little technical as I can.

I will seek to define with you merely what seems to be the most likely direction in which to start upon the trail of truth. Years ago this direction was given to me by an American philosopher whose home is in the East, and whose published works, few as they are and scattered in periodicals, are no fit expression of his powers. I refer to Mr. Charles S. Peirce, with whose very existence as a philosopher I dare say many of you are unacquainted. He is one of the most original of contemporary thinkers; and the principle of practicalism—or pragmatism, as he called it, when I first heard him enunciate it at Cambridge in the early '70's—is the clue or compass by following which I find myself more and more confirmed in believing we may keep our feet upon the proper trail.

Peirce's principle, as we may call it, may be expressed in a variety of ways, all of them very simple. In the *Popular Science Monthly* for January, 1878, he introduces it as follows: The soul and meaning of thought, he says, can never be made to direct itself towards anything but the production of belief, belief being the demicadence which closes a musical phrase in the symphony of our intellectual life. Thought in movement has thus for its only possible motive the attainment of thought at rest. But when our thought about an object has found its rest in belief, then our action on the subject can firmly and

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safely begin. Beliefs, in short, are really rules for action; and the whole function of thinking is but one step in the production of habits of action. If there were any part of a thought that made no difference in the thought's practical consequences, then that part would be no proper element of the thought's significance. Thus the same thought may be clad in different words; but if the different words suggest no different conduct, they are mere outer accretions, and have no part in the thought's meaning. If, however, they determine conduct differently, they are essential elements of the significance. "Please open the door," and, "*Veuillez ouvrir la porte*," in French, mean just the same thing; but "D—n you, open the door," although in English, *means* something very different. Thus to develop a thought's meaning we need only determine what conduct it is fitted to produce; that conduct is for us its sole significance. And the tangible fact at the root of all our thought-distinctions, however subtle, is that there is no one of them so fine as to consist in anything but a possible difference of practice. To attain perfect clearness in our thoughts of an object, then, we need only consider what effects of a conceivably practical kind the object may involve—what sensations we are to expect from it. and what reactions we must prepare. Our conception of these effects, then, is for us the whole of our conception of the object, so far as that conception has positive significance at all.

This is the principle of Peirce, the principle of

pragmatism. I think myself that it should be expressed more broadly than Mr. Peirce expresses it. The ultimate test for us of what a truth means is indeed the conduct it dictates or inspires. But it inspires that conduct because it first foretells some particular turn to our experience which shall call for just that conduct from us. And I should prefer for our purposes this evening to express Peirce's principle by saying that the effective meaning of any philosophic proposition can always be brought down to some particular consequence, in our future practical experience, whether active or passive; the point lying rather in the fact that the experience must be particular, than in the fact that it must be active.

To take in the importance of this principle, one must get accustomed to applying it to concrete cases. Such use as I am able to make of it convinces me that to be mindful of it in philosophical disputations tends wonderfully to smooth out misunderstandings and to bring in peace. If it did nothing else, then, it would yield a sovereignly valuable rule of method for discussion. So I shall devote the rest of this precious hour with you to its elucidation, because I sincerely think that if you once grasp it, it will shut your steps out from many an old false opening, and head you in the true direction for the trail.

One of its first consequences is this. Suppose there are two different philosophical definitions, or propositions, or maxims, or what not, which seem

to contradict each other, and about which men dispute. If, by supposing the truth of the one, you can foresee no conceivable practical consequence to anybody at any time or place, which is different from what you would foresee if you supposed the truth of the other, why then the difference between the two propositions is no difference,—it is only a specious and verbal difference, unworthy of further contention. Both formulas mean radically the same thing, although they may say it in such different words. It is astonishing to see how many philosophical disputes collapse into insignificance the moment you subject them to this simple test. There can be no difference which doesn't make a difference—no difference in abstract truth which does not express itself in a difference of concrete fact, and of conduct consequent upon the fact, imposed on somebody, somehow, somewhere, and somewhen. It is true that a certain shrinkage of values often seems to occur in our general formulas when we measure their meaning in this prosaic and practical way. They diminish. But the vastness that is merely based on vagueness is a false appearance of importance, and not a vastness worth retaining. The x 's, y 's, and z 's always do shrivel, as I have heard a learned friend say, whenever at the end of your algebraic computation they change into so many plain a 's, b 's, and c 's; but the whole function of algebra is, after all, to get them into that more definite shape; and the whole function of philosophy ought to be to find out what definite difference it

will make to you and me, at definite instants of our life, if this world-formula or that world-formula be the one which is true.

If we start off with an impossible case, we shall perhaps all the more clearly see the use and scope of our principle. Let us, therefore, put ourselves, in imagination, in a position from which no forecasts of consequence, no dictates of conduct, can possibly be made, so that the principle of pragmatism finds no field of application. Let us, I mean, assume that the present moment is the absolutely last moment of the world, with bare nonentity beyond it, and no hereafter for either experience or conduct.

Now I say that in that case there would be no sense whatever in some of our most urgent and envenomed philosophical and religious debates. The question is, "Is matter the producer of all things, or is a God there too?" would, for example, offer a perfectly idle and insignificant alternative if the world were finished and no more of it to come. Many of us, most of us, I think, now feel as if a terrible coldness and deadness would come over the world were we forced to believe that no informing spirit or purpose had to do with it, but it merely accidentally had come. The actually experienced details of fact might be the same on either hypothesis, some sad, some joyous; some rational, some odd and grotesque; but without a God behind them, we think they would have something ghastly, they would tell no genuine story, there would be no spec-

ulation in those eyes that they do glare with. With the God, on the other hand, they would grow solid, warm, and altogether full of real significance.

But I say that such an alternation of feelings, reasonable enough in a consciousness that is prospective, as ours now is, and whose world is partly yet to come, would be absolutely senseless and irrational in a purely retrospective consciousness summing up a world already past. For such a consciousness, no emotional interest could attach to the alternative. The problem would be purely intellectual; and if unaided matter could, with any scientific plausibility, be shown to cipher out the actual facts, then not the faintest shadow ought to cloud the mind, of regret for the God that by the same ciphering would prove needless and disappear from our belief.

For just consider the case sincerely, and say what would be the *worth* of such a God if he *were* there, with his work accomplished and his world run down.¹ He would be worth no more than just that world was worth. To that amount of result, with its mixed merits and defects, his creative power could attain, but go no farther. And since there is

[¹Of this and the following passage James later wrote: "I had no sooner given the address than I perceived a flaw in that part of it; but I have left the passage unaltered ever since, because the flaw did not spoil its illustrative value. . . . Even if matter could do every outward thing that God does, the idea of it would not work as satisfactorily, because the chief call for a God on modern men's part is for a being who will inwardly recognize them and judge them sympathetically" (*The Meaning of Truth*, 1909, pp. 189-190, note). Ed.]

to be no future; since the whole value and meaning of the world has been already paid in and actualized in the feelings that went with it in the passing, and now go with it in the ending; since it draws no supplemental significance (such as our real world draws) from its function of preparing something yet to come; why then, by it we take God's measure, as it were. He is the Being who could once for all do *that*; and for that much we are thankful to him, but for nothing more. But now, on the contrary hypothesis, namely, that the bits of matter following their "laws" could make that world and do no less, should we not be just as thankful to them? Wherein should we suffer loss, then, if we dropped God as an hypothesis and made the matter alone responsible? Where would the special deadness, "crassness," and ghastliness come in? And how, experience being what it is once for all, would God's presence in it make it any more "living," any richer in our sight?

Candidly, it is impossible to give any answer to this question. The actually experienced world is supposed to be the same in its details on either hypothesis, "the same, for our praise or blame," as Browning says. It stands there indefeasibly; a gift which can't be taken back. Calling matter the cause of it retracts no single one of the items that have made it up, nor does calling God the cause augment them. They are the God or the atoms, respectively, of just that and no other world. The God, if there, has been doing just what atoms could do—appear-

ing in the character of atoms, so to speak—and earning such gratitude as is due to atoms, and no more. If his presence lends no different turn or issue to the performance, it surely can lend it no increase of dignity. Nor would indignity come to it were he absent, and did the atoms remain the only actors on the stage. When a play is once over, and the curtain down, you really make it no better by claiming an illustrious genius for its author, just as you make it no worse by calling him a common hack.

Thus if no future detail of experience or conduct is to be deduced from our hypothesis, the debate between materialism and theism becomes quite idle and insignificant. Matter and God in that event mean exactly the same thing—the power, namely, neither more nor less, that can make just this mixed, imperfect, yet completed world—and the wise man is he who in such a case would turn his back on such a supererogatory discussion. Accordingly most men instinctively—and a large class of men, the so-called positivists or scientists, deliberately—do turn their backs on philosophical disputes from which nothing in the line of definite future consequences can be seen to follow. The verbal and empty character of our studies is surely a reproach with which you of the Philosophical Union are but too sadly familiar. An escaped Berkeley student said to me at Harvard the other day,—he had never been in the philosophical department here,—“Words, words, words, are all that you philosophers care

for." We philosophers think it all unjust; and yet, if the principle of pragmatism be true, it is a perfectly sound reproach unless the metaphysical alternatives under investigation can be shown to have alternative practical outcomes, however delicate and distant these may be. The common man and the scientist can discover no such outcomes. And if the metaphysician can discern none either, the common man and scientist certainly are in the right of it, as against him. His science is then but pompous trifling; and the endowment of a professorship for such a being would be something really absurd.

Accordingly, in every genuine metaphysical debate some practical issue, however remote, is really involved. To realize this, revert with me to the question of materialism or theism; and place yourselves this time in the real world we live in, the world that has a future, that is yet uncompleted whilst we speak. In this unfinished world the alternative of "materialism or theism?" is intensely practical; and it is worth while for us to spend some minutes of our hour in seeing how truly this is the case.

How, indeed, does the programme differ for us, according as we consider that the facts of experience up to date are purposeless configurations of atoms moving according to eternal elementary laws, or that on the other hand they are due to the providence of God? As far as the past facts go, indeed there is no difference. These facts are in, are bagged, are captured; and the good that's in them is gained,

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be the atoms or be the God their cause. There are accordingly many materialists about us to-day who, ignoring altogether the future and practical aspects of the question, seek to eliminate the odium attaching to the word materialism, and even to eliminate the word itself, by showing that, if matter could give birth to all these gains, why then matter, functionally considered, is just as divine an entity as God, in fact coalesces with God, is what you mean by God. Cease, these persons advise us, to use either of these terms, with their outgrown opposition. Use terms free of the clerical connotations on the one hand; of the suggestion of grossness, coarseness, ignobility, on the other. Talk of the primal mystery, of the unknowable energy, of the one and only power, instead of saying either God or matter. This is the course to which Mr. Spencer urges us at the end of the first volume of his *Psychology*. In some well-written pages he there shows us that a "matter" so infinitely subtle, and performing motions as inconceivably quick and fine as modern science postulates in her explanations, has no trace of grossness left. He shows that the conception of spirit, as we mortals hitherto have framed it, is itself too gross to cover the exquisite complexity of Nature's facts. Both terms, he says, are but symbols, pointing to that one unknowable reality in which their oppositions cease.

Throughout these remarks of Mr. Spencer, eloquent, and even noble in a certain sense, as they are, he seems to think that the dislike of the ordinary

man to materialism comes from a purely æsthetic disdain of matter, as something gross in itself, and vile and despicable. Undoubtedly such an æsthetic disdain of matter has played a part in philosophic history. But it forms no part whatever of an intelligent modern man's dislikes. Give him a matter bound forever by its laws to lead our world nearer and nearer to perfection, and any rational man will worship that matter as readily as Mr. Spencer worships his own so-called unknowable power. It not only has made for righteousness up to date, but it will make for righteousness forever; and that is all we need. Doing practically all that a God can do, it is equivalent to God, its function is a God's function, and in a world in which a God would be superfluous; from such a world a God could never lawfully be missed.

But is the matter by which Mr. Spencer's process of cosmic evolution is carried on any such principle of never-ending perfection as this? Indeed it is not, for the future end of every cosmically evolved thing or system of things is tragedy; and Mr. Spencer, in confining himself to the æsthetic and ignoring the practical side of the controversy, has really contributed nothing serious to its relief. But apply now our principle of practical results, and see what a vital significance the question of materialism or theism immediately acquires.

Theism and materialism, so indifferent when taken retrospectively, point when we take them prospectively to wholly different practical conse-

quences, to opposite outlooks of experience. For, according to the theory of mechanical evolution, the laws of redistribution of matter and motion, though they are certainly to thank for all the good hours which our organisms have ever yielded us and for all the ideals which our minds now frame, are yet fatally certain to undo their work again, and to redissolve everything that they have once evolved. You all know the picture of the last foreseeable state of the dead universe, as evolutionary science gives it forth. I cannot state it better than in Mr. Balfour's words: "The energies of our system will decay, the glory of the sun will be dimmed, and the earth, tideless and inert, will no longer tolerate the race which has for a moment disturbed its solitude. Man will go down into the pit, and all his thoughts will perish. The uneasy consciousness which in this obscure corner has for a brief space broken the contented silence of the universe, will be at rest. Matter will know itself no longer. 'Imperishable monuments' and 'immortal deeds,' death itself, and love stronger than death, will be as if they had not been. Nor will anything that is, be better or worse for all that the labor, genius, devotion, and suffering of man have striven through countless ages to effect."¹

That is the sting of it, that in the vast driftings of the cosmic weather, though many a jewelled shore appears, and many an enchanted cloud-bank floats away, long lingering ere it be dissolved—even

¹ *The Foundations of Belief*, p. 30.

as our world now lingers, for our joy—yet when these transient products are gone, nothing, absolutely *nothing* remains, to represent those particular qualities, those elements of preciousness which they may have enshrined. Dead and gone are they, gone utterly from the very sphere and room of being. Without an echo; without a memory; without an influence on aught that may come after, to make it care for similar ideals. This utter final wreck and tragedy is of the essence of scientific materialism as at present understood. The lower and not the higher forces are the eternal forces, or the last surviving forces within the only cycle of evolution which we can definitely see. Mr. Spencer believes this as much as any one; so why should he argue with us as if we were making silly æsthetic objections to the “grossness” of “matter and motion,”—the principles of his philosophy,—when what really dismays us in it is the disconsolateness of its ulterior practical results?

No, the true objection to materialism is not positive but negative. It would be farcical at this day to make complaint of it for what it *is*, for “grossness.” Grossness is what grossness *does*—we now know *that*. We make complaint of it, on the contrary, for what it is *not*—not a permanent warrant for our more ideal interests, not a fulfiller of our remotest hopes.

The notion of God, on the other hand, however inferior it may be in clearness to those mathematical notions so current in mechanical philosophy, has at

least this practical superiority over them, that it guarantees an ideal order that shall be permanently preserved. A world with a God in it to say the last word, may indeed burn up or freeze, but we then think of Him as still mindful of the old ideals and sure to bring them elsewhere to fruition; so that, where He is, tragedy is only provisional and partial, and shipwreck and dissolution not the absolutely final things. This need of an eternal moral order is one of the deepest needs of our breast. And those poets, like Dante and Wordsworth, who live on the conviction of such an order, owe to that fact the extraordinary tonic and consoling power of their verse. Here then, in these different emotional and practical appeals, in these adjustments of our concrete attitudes of hope and expectation, and all the delicate consequences which their differences entail, lie the real meanings of materialism and theism—not in hair-splitting abstractions about matter's inner essence, or about the metaphysical attributes of God. Materialism means simply the denial that the moral order is eternal, and the cutting off of ultimate hopes; theism means the affirmation of an eternal moral order and the letting loose of hope. Surely here is an issue genuine enough, for any one who feels it; and, as long as men are men, it will yield matter for serious philosophic debate. Concerning this question, at any rate, the positivists and pooh-pooh-ers of metaphysics are in the wrong.

But possibly some of you may still rally to their defence. Even whilst admitting that theism and

materialism make different prophecies of the world's future, you may yourselves pooh-pooh the difference as something so infinitely remote as to mean nothing for a sane mind. The essence of a sane mind, you may say, is to take shorter views, and to feel no concern about such chimæras as the latter end of the world. Well, I can only say that if you say this, you do injustice to human nature. Religious melancholy is not disposed of by a simple flourish of the word "insanity." The absolute things, the last things, the overlapping things, are the truly philosophic concern; all superior minds feel seriously about them, and the mind with the shortest views is simply the mind of the more shallow man.

However, I am willing to pass over these very distant outlooks on the ultimate, if any of you so insist. The theistic controversy can still serve to illustrate the principle of pragmatism for us well enough, without driving us so far afield. If there be a God, it is not likely that he is confined solely to making differences in the world's latter end; he probably makes differences all along its course. Now the principle of practicalism says that the very meaning of the conception of God lies in those differences which must be made in our experience if the conception be true. God's famous inventory of perfections, as elaborated by dogmatic theology, either means nothing, says our principle, or it implies certain definite things that we can feel and do at particular moments of our lives, things which we could not feel and should not do were no God pres-

ent and were the business of the universe carried on by material atoms instead. So far as our conceptions of the Deity involve no such experiences, so far they are meaningless and verbal,—scholastic entities and abstractions, as the positivists say, and fit objects for their scorn. But so far as they do involve such definite experiences, God means something for us, and may be real.

Now if we look at the definitions of God made by dogmatic theology, we see immediately that some stand and some fall when treated by this test. God, for example, as any orthodox text-book will tell us, is a being existing not only *per se*, or by himself, as created beings exist, but *a se*, or from himself; and out of this “aseity” flow most of his perfections. He is, for example, necessary; absolute; infinite in all respects; and single. He is simple, not compounded of essence and existence, substance and accident, actuality and potentiality, or subject and attributes, as are other things. He belongs to no genus; he is inwardly and outwardly unalterable; he knows and wills all things, and first of all his own infinite self, in one indivisible eternal act. And he is absolutely self-sufficing, and infinitely happy. Now in which one of us practical Americans here assembled does this conglomeration of attributes awaken any sense of reality? And if in no one, then why not? Surely because such attributes awaken no responsive active feelings and call for no particular conduct of our own. How does God’s “aseity” come home to *you*? What specific thing

can I do to adapt myself to his "simplicity"? Or how determine our behavior henceforward if his "felicity" is anyhow absolutely complete? In the '50's and '60's Captain Mayne Reid was the great writer of boys' books of out-of-door adventure. He was forever extolling the hunters and field-observers of living animals' habits, and keeping up a fire of invective against the "closet-naturalists," as he called them, the collectors and classifiers, and handlers of skeletons and skins. When I was a boy I used to think that a closet-naturalist must be the vilest type of wretch under the sun. But surely the systematic theologians are the closet-naturalists of the Deity, even in Captain Mayne Reid's sense. Their orthodox deduction of God's attributes is nothing but a shuffling and matching of pedantic dictionary-adjectives, aloof from morals, aloof from human needs, something that might be worked out from the mere word "God" by a logical machine of wood and brass as well as by a man of flesh and blood. The attributes which I have quoted have absolutely nothing to do with religion, for religion is a living practical affair. Other parts, indeed, of God's traditional description do have practical connection with life, and have owed all their historic importance to that fact. His omniscience, for example, and his justice. With the one he sees us in the dark, with the other he rewards and punishes what he sees. So do his ubiquity and eternity and unalterability appeal to our confidence, and his goodness banish our fears. Even attributes of less

meaning to this present audience have in past times so appealed. One of the chief attributes of God, according to the orthodox theology, is his infinite love of himself, proved by asking the question, "By what but an infinite object can an infinite affection be appeased?" An immediate consequence of this primary self-love of God is the orthodox dogma that the manifestation of his own glory is God's primal purpose in creation; and that dogma has certainly made very efficient practical connection with life. It is true that we ourselves are tending to outgrow this old monarchical conception of a Deity with his "court" and pomp—"his state is kingly, thousands at his bidding speed," etc.—but there is no denying the enormous influence it has had over ecclesiastical history, nor, by repercussion, over the history of European states. And yet even these more real and significant attributes have the trail of the serpent over them as the books on theology have actually worked them out. One feels that, in the theologians' hands, they are only a set of dictionary-adjectives, mechanically deduced; logic has stepped into the place of vision, professionalism into that of life. Instead of bread we get a stone; instead of a fish, a serpent. Did such a conglomeration of abstract general terms give really the gist of our knowledge of the Deity, divinity-schools might indeed continue to flourish, but religion, vital religion, would have taken its flight from this world. What keeps religion going is something else than abstract definitions and systems of logically concatenated

adjectives, and something different from faculties of theology and their professors. All these things are after-effects, secondary accretions upon a mass of concrete religious experiences, connecting themselves with feeling and conduct that renew themselves *in sæcula sæculorum* in the lives of humble private men. If you ask what these experiences are, they are conversations with the unseen, voices and visions, responses to prayer, changes of heart, deliverances from fear, inflowings of help, assurances of support, whenever certain persons set their own internal attitude in certain appropriate ways. The power comes and goes and is lost, and can be found only in a certain definite direction, just as if it were a concrete material thing. These direct experiences of a wider spiritual life with which our superficial consciousness is continuous, and with which it keeps up an intense commerce, form the primary mass of direct religious experience on which all hearsay religion rests, and which furnishes that notion of an ever-present God, out of which systematic theology thereupon proceeds to make capital in its own unreal pedantic way. What the word "God" means is just those passive and active experiences of your life. Now, my friends, it is quite immaterial to my purpose whether you yourselves enjoy and venerate these experiences, or whether you stand aloof and, viewing them in others, suspect them of being illusory and vain. Like all other human experiences, they too certainly share in the general liability to illusion and mistake. They

need not be infallible. But they are certainly the originals of the God-idea, and theology is the translation; and you remember that I am now using the God-idea merely as an example, not to discuss as to its truth or error, but only to show how well the principle of pragmatism works. That the God of systematic theology should exist or not exist is a matter of small practical moment. At most it means that you may continue uttering certain abstract words and that you must stop using others. But if the God of these particular experiences be false, it is an awful thing for you, if you are one of those whose lives are stayed on such experiences. The theistic controversy, trivial enough if we take it merely academically and theologically, is of tremendous significance if we test it by its results for actual life.

I can best continue to recommend the principle of practicalism to you by keeping in the neighborhood of this theological idea. I reminded you a few minutes ago that the old monarchical notion of the Deity as a sort of Louis the Fourteenth of the Heavens is losing nowadays much of its ancient prestige. Religious philosophy, like all philosophy, is growing more and more idealistic. And in the philosophy of the Absolute, so called, that post-Kantian form of idealism which is carrying so many of our higher minds before it, we have the triumph of what in old times was summarily disposed of as the pantheistic heresy,—I mean the conception of God, not as the extraneous creator, but as the in-

dwelling spirit and substance of the world. I know not where one can find a more candid, more clear, or, on the whole, more persuasive statement of this theology of Absolute Idealism than in the addresses made before this very Union three years ago by your own great Californian philosopher (whose colleague at Harvard I am proud to be), Josiah Royce. His contributions to the resulting volume, *The Conception of God*, form a very masterpiece of popularization. Now you will remember, many of you, that in the discussion that followed Professor Royce's first address, the debate turned largely on the ideas of unity and plurality, and on the question whether, if God be One in All and All in All, "One with the unity of a single instant," as Royce calls it, "forming in His wholeness one luminously transparent moment," any room is left for real morality or freedom. Professor Howison, in particular, was earnest in urging that morality and freedom are relations between a manifold of selves, and that under the régime of Royce's monistic Absolute Thought "no true manifold of selves is or can be provided for." I will not go into any of the details of that particular discussion, but just ask you to consider for a moment whether, in general, any discussion about monism or pluralism, any argument over the unity of the universe, would not necessarily be brought into a shape where it tends to straighten itself out, by bringing our principle of practical results to bear.

The question whether the world is at bottom One or Many is a typical metaphysical question. Long

has it raged! In its crudest form it is an exquisite example of the *loggerheads* of metaphysics. "I say it is one great fact," Parmenides and Spinoza exclaim. "I say it is many little facts," reply the atomists and associationists. "I say it is both one and many, many in one," say the Hegelians; and in the ordinary popular discussions we rarely get beyond this barren reiteration by the disputants of their pet adjectives of number. But is it not first of all clear that when we take such an adjective as "One" absolutely and abstractly, its meaning is so vague and empty that it makes no difference whether we affirm or deny it? Certainly this universe is not the mere number One; and yet you can number it "one," if you like, in talking about it as contrasted with other possible worlds numbered "two" and "three" for the occasion. What exact thing do you *practically* mean by "One," when you call the universe One, is the first question you must ask. In what ways does the oneness come home to your own personal life? By what difference does it express itself in your experience? How can you act differently towards a universe which is one? Inquired into in this way, the unity might grow clear and be affirmed in some ways and denied in others, and so cleared up, even though a certain vague and worshipful portentousness might disappear from the notion of it in the process.

For instance, one practical result that follows when we have one thing to handle, is that we can pass from one part of it to another without letting

go of the thing. In this sense oneness must be partly denied and partly affirmed of our universe. Physically we can pass continuously in various manners from one part of it to another part. But logically and psychically the passage seems less easy, for there is no obvious transition from one mind to another, or from minds to physical things. You have to step off and get on again; so that in these ways the world is not one, as measured by that practical test.

Another practical meaning of oneness is susceptibility of collection. A collection is one, though the things that compose it be many. Now, can we practically "collect" the universe? Physically, of course we cannot. And mentally we cannot, if we take it concretely in its details. But if we take it summarily and abstractly, then we collect it mentally whenever we refer to it, even as I do now when I fling the term "universe" at it, and so seem to leave a mental ring around it. It is plain, however, that such abstract noetic unity (as one might call it) is practically an extremely insignificant thing.

Again, oneness may mean generic sameness, so that you can treat all parts of the collection by one rule and get the same results. It is evident that in this sense the oneness of our world is incomplete, for in spite of much generic sameness in its elements and items, they still remain of many irreducible kinds. You can't pass by mere logic all over the field of it.

Its elements have, however, an affinity or commensurability with each other, are not wholly irrelevant, but can be compared, and fit together after certain fashions. This again might practically mean that they were one *in origin*, and that, tracing them backwards, we should find them arising in a single primal causal fact. Such unity of origin would have definite practical consequences, would have them for our scientific life at least.

I can give only these hasty superficial indications of what I mean when I say that it tends to clear up the quarrel between monism and pluralism to subject the notion of unity to such practical tests. On the other hand, it does but perpetuate strife and misunderstanding to continue talking of it in an absolute and mystical way. I have little doubt myself that this old quarrel might be completely smoothed out to the satisfaction of all claimants, if only the maxim of Peirce were methodically followed here. The current monism on the whole still keeps talking in too abstract a way. It says the world must be either pure disconnectedness, no universe at all, or absolute unity. It insists that there is no stopping-place half way. Any connection whatever, says this monism, is only possible if there be still more connection, until at last we are driven to admit the absolutely total connection required. But this absolutely total connection either means nothing, is the mere word "one" spelt long; or else it means the sum of all the partial connections that can possibly be conceived. I believe that when

we thus attack the question, and set ourselves to search for these possible connections, and conceive each in a definite practical way, the dispute is already in a fair way to be settled beyond the chance of misunderstanding, by a compromise in which the Many and the One both get their lawful rights.

But I am in danger of becoming technical; so I must stop right here, and let you go.

I am happy to say that it is the English-speaking philosophers who first introduced the custom of interpreting the meaning of conceptions by asking what difference they make for life. Mr. Peirce has only expressed in the form of an explicit maxim what their sense for reality led them all instinctively to do. The great English way of investigating a conception is to ask yourself right off, "What is it *known as*? In what facts does it result? What is its *cash-value*, in terms of particular experience? and what special difference would come into the world according as it were true or false?" Thus does Locke treat the conception of personal identity. What you mean by it is just your chain of memories, says he. That is the only concretely verifiable part of its significance. All further ideas about it, such as the oneness or manyness of the spiritual substance on which it is based, are therefore void of intelligible meaning; and propositions touching such ideas may be indifferently affirmed or denied. So Berkeley with his "matter." The cash-value of matter is our physical sensations.

That is what it is known as, all that we concretely verify of its conception. That therefore is the whole meaning of the word "matter"—any other pretended meaning is mere wind of words. Hume does the same thing with causation. It is known as habitual antecedence, and tendency on our part to look for something definite to come. Apart from this practical meaning it has no significance whatever, and books about it may be committed to the flames, says Hume. Stewart and Brown, James Mill, John Mill, and Bain, have followed more or less consistently the same method; and Shadworth Hodgson has used it almost as explicitly as Mr. Peirce. These writers have many of them no doubt been too sweeping in their negations; Hume, in particular, and James Mill, and Bain. But when all is said and done, it was they, not Kant, who introduced "the critical method" into philosophy, the one method fitted to make philosophy a study worthy of serious men. For what seriousness can possibly remain in debating philosophic propositions that will never make an appreciable difference to us in action? And what matters it, when all propositions are practically meaningless, which of them be called true or false?

The shortcomings and the negations and baldnesses of the English philosophers in question come, not from their eye to merely practical results, but solely from their failure to track the practical results completely enough to see how far they extend. Hume can be corrected and built out, and his beliefs

enriched, by using Humian principles exclusively, and without making any use of the circuitous and ponderous artificialities of Kant. It is indeed a somewhat pathetic matter, as it seems to me, that this is not the course which the actual history of philosophy has followed. Hume had no English successors of adequate ability to complete him and correct his negations; so it happened, as a matter of fact, that the building out of critical philosophy has mainly been left to thinkers who were under the influence of Kant. Even in England and this country it is with Kantian catch-words and categories that the fuller view of life is pursued, and in our universities it is the courses in transcendentalism that kindle the enthusiasm of the more ardent students, whilst the courses in English philosophy are committed to a secondary place. I cannot think that this is exactly as it should be. And I say this not out of national jingoism, for jingoism has no place in philosophy; or out of excitement over the great Anglo-American alliance against the world, of which we nowadays hear so much—though heaven knows that to that alliance I wish a God-speed. I say it because I sincerely believe that the English spirit in philosophy is intellectually, as well as practically and morally, on the saner, sounder, and truer path. Kant's mind is the rarest and most intricate of all possible antique bric-à-brac museums, and connoisseurs and dilettanti will always wish to visit it and see the wondrous and racy contents. The temper of the dear old man about his

[1898] PHILOSOPHICAL CONCEPTIONS

work is perfectly delectable. And yet he is really—although I shrink with some terror from saying such a thing before some of you here present—at bottom a mere curio, a “specimen.” I mean by this a perfectly definite thing: I believe that Kant bequeaths to us not one single conception which is both indispensable to philosophy and which philosophy either did not possess before him, or was not destined inevitably to acquire after him through the growth of men’s reflection upon the hypotheses by which science interprets nature. The true line of philosophic progress lies, in short, it seems to me, not so much *through* Kant as *round* him to the point where now we stand. Philosophy can perfectly well outflank him, and build herself up into adequate fulness by prolonging more directly the older English lines.

May I hope, as I now conclude, and release your attention from the strain to which you have so kindly put it on my behalf, that on this wonderful Pacific Coast, of which our race is taking possession, the principle of practicalism, in which I have tried so hard to interest you, and with it the whole English tradition in philosophy, will come to its rights, and in your hands help the rest of us in our struggle towards the light.

XXIX

HODGSON'S "OBSERVATIONS OF TRANCE"¹

[1898]

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IF I may be allowed a personal expression of opinion at the end of this notice, I would say that the Piper phenomena are the most absolutely baffling thing I know. Of the various applicable hypotheses, each seems more unnatural than the rest. Any definitely known form of fraud seems out of the question; yet undoubtedly, could it be made probable, fraud would be by far the most satisfying explanation, since it would leave no further problems outstanding. The spirit-hypothesis exhibits a va-

[¹Closing paragraphs reprinted from a review of R. Hodgson's *A Further Record of Observations of Certain Phenomena of Trance*, *Psychological Review*, 1898, 5, 420-424. This selection and the one reprinted below (p. 484) represent James's most mature views of mediumistic phenomena, with special reference to the case of Mrs. Piper. A popular presentation of these views may be found in "Confidences of a Psychical Researcher," reprinted in *Memories and Studies* (1911). The author's earlier views can be traced through the following articles and reviews: (1) "Report of the Committee on Mediumistic Phenomena," *Proceedings of the American Society for Psychical Research*, 1886, 1, 102-106, containing a report on "Mrs. P.," and a statement of the writer's belief that the general low level of mediumistic evidence requires the very careful study of special test cases; (2) "A Record of Observations of Certain Phenomena of

cancy, triviality and incoherence of mind painful to think of as the state of the departed; and coupled therewithal a pretension to impress one, a disposition to "fish" and face round, and disguise the essential hollowness, which are, if anything, more painful still. Mr. Hodgson has to resort to the theory that, although the communicants probably are spirits, they are in a semi-comatose or sleeping state while communicating, and only half aware of what is going on, while the habits of Mrs. Piper's neural organism largely supply the definite form of words, etc., in which the phenomenon is clothed. Then there is the theory that the "subliminal" extension of Mrs. Piper's own mind masquerades in this way, and plays these fantastic tricks before high heaven, using its preternatural powers of cognition and memory for the basest of deceits. Many details make for this view, which also falls well into line with what we know of automatic writing and

Trance," Part III., *Proceedings of the [English] Society for Psychical Research*, 1890, 6, 651-659, containing story of the author's experiences with Mrs. Piper since his first acquaintance with her in 1885, expressing belief that her trance knowledge exceeds her waking knowledge, but offering no explanation; (3) "Address of the President," *Proceedings of the [English] Society for Psychical Research*, 1896, 12, 2-10, reprinted in part in *Will to Believe* (1907), pp. 317-320, 323-327, asserting author's belief that the Piper case is decisive against the orthodox psychology; (4) "Psychical Research," *Psychological Review*, 1896, 3, 649-652; (5) "Mrs. Piper 'The Medium,'" *Science*, 1898, N.S. 7, 640-641, containing controversy with Prof. J. McK. Cattell on the evidential value of the Piper case. For the many additional titles relating to psychical research in the broad sense, the reader should consult *The Annotated Bibliography of the Writings of William James* (1920). Ed.]

similar subliminal performances in the public at large. But what a ghastly and grotesque sort of appendage to one's personality is this, from any point of view: the humbugging and masquerading extra-marginal self is as great a paradox for psychology as the comatose spirits are for pneumatology. Finally, we may fall back on the notion of a sort of floating mind-stuff in the world, *infrahuman*, yet possessed of fragmentary gleams of superhuman cognition, unable to gather itself together except by taking advantage of the trance states of some existing human organism, and there enjoying a parasitic existence which it prolongs by making itself acceptable and plausible under the improvised name of "spirit control." On any of these theories our "classic" human life, as we may call it, seems to connect itself with an environment so "romantic" as to baffle all one's habitual sense of teleology and moral meaning. And yet there seems no refuge for one really familiar with the Piper phenomenon (or, doubtless, with others that are similar) from admitting one or other, perhaps even all of these fantastic prolongations of mental life into the unknown.

The world is evidently more complex than we are accustomed to think it, the "absolute world-ground," in particular, being farther off (as Mr. F. C. S. Schiller has well pointed out) than it is the wont either of the usual empiricisms or of the usual idealisms to think it. This being the case, the "scientific" sort of procedure is evidently Mr. Hodgson's, with his dogged and candid exploration of all the

details of so exceptional a concrete instance; and not that of the critics who, refusing to come to any close quarters with the facts, survey them at long range and summarily dispose of them at a convenient distance by the abstract name of fraud.

XXX

"PERSONAL IDEALISM"¹

[1903]

. . . I CALL [this] book refreshing, first, because "band-work," always a cheerful sight, is peculiarly so in a field like that of philosophy where men are usually more given to stickling for their differences than for their points of union; second, because the style of most of the essayists is unconventional and enthusiastic—sometimes frolicsome even; and finally because the philosophy which the writers profess is a sort of breaking of the ice, and seems to promise a new channel where formerly the only pathways were Naturalism's desert on the one hand, and the barren summits of the Absolute on the other. Here we have Naturalism's concreteness without its lowness, and Absolutism's elevation without its abstractness, for human purposes, of result. The human person, according to these writers, shows itself, if we take it completely and empirically enough, to be a force irreducible to lower terms, and

[¹ Reprinted with omissions from *Mind*, 1903, N.S. 12, 93-97. Review of *Personal Idealism: Philosophical Essays by Eight Members of the University of Oxford*, edited by Henry Sturt, 1902. The authors were F. C. S. Schiller, G. F. Stout, W. R. Boyce Gibson, G. E. Underhill, R. R. Marett, H. Sturt, F. W. Bussell, and Hastings Rashdall. On same topic see below, p. 450. Ed.]

an origin both of theoretic perspectives and of consequences in the way of outward fact.

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A re-anthropomorphised Universe is the general outcome of this philosophy, which on the whole continues Lotze, Sigwart, and Renouvier's line of thinking, although it is so much more radically experiential in tone. Being so experiential, it has to be unacademic, informal, and fragmentary; and this, from the point of view of making converts, is a bad practical defect. What we need now in English, it seems to me, is a more commanding and all-round statement in classic style and generalised terms of the personal idealism which these authors represent. Mr. Schiller might compass it, if he would tone down a little the exuberance of his polemic wit—meanwhile we have these trial bricks, set in at separate points.

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I add no criticism—although I think that every essay calls for some objection of detail—because I think that the important thing to recognise is that we have here a distinct new departure in contemporary thought, the combination, namely, of a teleological and spiritual inspiration with the same kind of conviction that the particulars of experience constitute the stronghold of reality as has usually characterised the materialistic type of mind. If empiricism is to be radical it must indeed admit the concrete data of experience in their full completeness. The only fully complete concrete data

are, however, the successive moments of our own several histories, taken with their subjective personal aspect, as well as with their "objective" deliverance or "content." After the analogy of these moments of experiences must all complete reality be conceived. Radical empiricism thus leads to the assumption of a collectivism of personal lives (which may be of any grade of complication, and superhuman or infrahuman as well as human), variously cognitive of each other, variously conative and impulsive, genuinely evolving and changing by effort and trial, and by their interaction and cumulative achievements making up the world. Beginnings of a sincere Empirical Evolutionism like this have been made already—I need only point to Fechner, Lotze, Paulsen, C. S. Peirce (in the *Monist*), and to a certain extent to Wundt and Royce. But most of these authors spoil the scheme entirely by the arbitrary way in which they clap on to it an absolute monism with which it has nothing to do. Mr. Schiller, in his *Riddles of the Sphinx*, and more acutely still in various essays, has given to it a more consistent form. It is to be hoped that the publication of the present volume will give it a more mature self-consciousness, and that a systematic all-round statement of it may ere long appear. I know of no more urgent philosophic desideratum at the present day.

XXXI

THE CHICAGO SCHOOL¹

[1904]

THE rest of the world has made merry over the Chicago man's legendary saying that "Chicago hasn't had time to get round to culture yet, but when she does strike her, she'll make her hum." Already the prophecy is fulfilling itself in a dazzling manner. Chicago has a School of Thought!—a school of thought which, it is safe to predict, will figure in literature as the School of Chicago for twenty-five years to come. Some universities have plenty of thought to show, but no school; others plenty of school, but no thought. The University of Chicago, by its Decennial Publications, shows real thought and a real school. Prof. John Dewey, and at least ten of his disciples, have collectively put into the world a statement, homogeneous in spite of so many

¹1. *Studies in Logical Theory*, John Dewey, with the co-operation of members and fellows of the Department of Philosophy. The Decennial Publications, Second Series, Volume XI., Chicago. The University of Chicago Press, 1903. 2. *The Definition of the Psychical*, George H. Mead. 3. *Existence, Meaning and Reality*, A. W. Moore. 4. *Logical Conditions of a Scientific Treatment of Morality*, John Dewey. 5. *The Relations of Structural and Functional Psychology to Philosophy*, James Rowland Angell. Reprints from Volume III. of the first series of Decennial Publications, *ibid.*, 1903. [Review reprinted with omissions from *Psychological Bulletin*, 1904, 1, 1-5. Ed.]

co-operating minds, of a view of the world, both theoretical and practical, which is so simple, massive, and positive that, in spite of the fact that many parts of it yet need to be worked out, it deserves the title of a new system of philosophy. If it be as true as it is original, its publication must be reckoned an important event. The present reviewer, for one, strongly suspects it of being true.

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There are two great gaps in the system, which none of the Chicago writers have done anything to fill, and until they are filled, the system, as a system, will appear defective. There is no cosmology, no positive account of the order of physical fact, as contrasted with mental fact, and no account of the fact (which I assume the writers to believe in) that different subjects share a common object-world. These lacunæ can hardly be inadvertent—we shall doubtless soon see them filled in some way by one or another member of the school.

I might go into much greater technical detail, and I might in particular make many a striking quotation. But I prefer to be exceedingly summary, and merely to call the reader's attention to the importance of this output of Chicago University. Taking it *en gros*, what strikes me most in it is the great sense of concrete reality with which it is filled. It seems a promising *via media* between the empiricist and transcendentalist tendencies of our time. Like empiricism, it is individualistic and phenomenalistic; it places truth *in rebus*, and not *ante rem*.

It resembles transcendentalism, on the other hand, in making value and fact inseparable, and in standing for continuities and purposes in things. It employs the genetic method to which both schools are now accustomed. It coincides remarkably with the simultaneous movement in favor of "pragmatism" or "humanism" set up quite independently at Oxford by Messrs. Schiller and Sturt. It probably has a great future, and is certainly something of which Americans may be proud. Professor Dewey ought to gather into another volume his scattered essays and addresses on psychological and ethical topics, for now that his philosophy is systematically formulated, these throw a needed light.

XXXII

HUMANISM ¹

[1904]

QUITE recently the word "pragmatism," first used thirty years ago by our American philosopher C. S. Peirce, has become fashionable as the designation of a novel way of looking at the mind's relations to reality. Throughout almost the entire past both Science and Philosophy have been accustomed to suppose that "Truth" must needs consist of a hard-and-fast system of propositions, valid in themselves and eternally, which our minds have only to copy literally. Logic and mathematics had always seemed to constitute such systems, and the entities and laws of physics and chemistry, just as our textbooks formulated them, were supposed to be equally "objective."

But three influences have at last conspired to dissolve away this appearance of absoluteness in such facts and truths as we can formulate. First, philosophic criticisms like those of Mill, Lotze, and Sigwart have emphasized the incongruence of the forms of our thinking with the "things" which the

[¹ Reprinted with omissions from *Nation*, 1904, 78, 175-176. Review of *Humanism: Philosophical Essays*, by F. C. S. Schiller, 1903. Cf. also above, pp. 442-444. Ed.]

thinking nevertheless successfully handles. (Predicates and subjects, for example, do not live separately in the things, as they do in our judgments of them.) Second, not only has the doctrine of Evolution weaned us from fixities and inflexibilities in general, and given us a world all plastic, but it has made us ready to imagine almost all our functions, even the intellectual ones, as "adaptations," and possibly transient adaptations, to practical human needs. Lastly, the enormous growth of the sciences in the past fifty years has reconciled us to the idea that "Not quite true" is as near as we can ever get. For investigating minds there is no sanctity in any theory, and "laws of nature" absolutely expressible by us are idols of the popular-science level of education exclusively. Up-to-date logicians, mathematicians, physicists, and chemists vie with one another as to who will break down most barriers, efface most outlines, supersede most current definitions and conceptions, and show most skill in playing about the old material in new ways, limited only by the one rule of the game, that the new thoughts must dip into and coalesce with the material at more than one point of sensible experience.

Thus has arisen the pragmatism of Pearson in England, of Mach in Austria, and of the somewhat more reluctant Poincaré in France, all of whom say that our sciences are but *Denkmittel*—"true" in no other sense than that of yielding a conceptual shorthand, economical for our descriptions. Thus does Simmel in Berlin suggest that no human conception

whatever is more than an instrument of biological utility; and that if it be successfully that, we may call it true, whatever it resembles or fails to resemble. Bergson, and more particularly his disciples Wilbois, Le Roy, and others in France, have defended a very similar doctrine. Ostwald in Leipzig, with his *Energetics*, belongs to the same school, which has received the most thoroughgoing philosophical of its expressions here in America, in the publications of Professor Dewey and his pupils in Chicago University, publications of which the volume *Studies in Logical Theory* (1903) forms only the most systematized instalment.¹

Last year the volume *Personal Idealism*,² a collection of essays by Messrs. Sturt, Schiller, and other Oxford teachers, announced the pragmatist doctrine radically to English academic circles; and now Mr. Schiller publishes his own scattered essays to the same effect, dropping the term "pragmatism" altogether, and boldly describing as "Humanism" the philosophy of which he is so far the most vivacious and pugnacious champion. No one can ever foresee what terms will succeed in the struggle to gain currency. "Pragmatism" (*i.e.*, practicalism) is certainly somewhat blind. "Humanism" is perhaps too "whole-hearted" for the use of philosophers, who are a bloodless breed; but, save for that objection, one might back it, for it expresses the essence of the new way of thought, which is, that it is impossible

[¹ *Cf.* also above, pp. 445-447. Ed.]

[² *Cf.* above, pp. 442-444. Ed.]

to strip the human element out from even our most abstract theorizing. All our mental categories without exception have been evolved because of their fruitfulness for life, and owe their being to historic circumstances, just as much as do the nouns and verbs and adjectives in which our languages clothe them.

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But humanistic empiricism will have many other steps forward to make before it conquers all antagonisms. Grant, for example, that our human subjectivity determines *what* we shall say things are; grant that it gives the "predicates" to all the "subjects" of our conversation. Still the fact remains that some subjects are there for us to talk about, and others not there; and the farther fact that, in spite of so many different ways in which we may perform the talking, there still is a grain in the subjects which we can't well go against, a cleavage-structure which resists certain of our predicates and makes others slide in more easily. Does not this stubborn *that* of some things and not of others; does not this imperfect plasticity of them to our conceptual manipulation, oppose a positive limit to the sphere of influence of humanistic explanations? Does not the fact that so many of our thoughts are retroactive in their application point to a similar limit? "Radium," for example; humanistically, both the *that* and the *what* of it are creations of yesterday. But we believe that ultra-humanistically they existed ages before their gifted discoverers

were born. In what shape? There's the rub! for we have no non-humanistic categories to think in. But the *that* of things, and their affinity with some of our *whats* and not with others, and the retroactive force of our conceptions, are so many problems for Humanism over which battle is sure to rage for a long time to come.

Mr. Schiller has but skirted some of these problems without entering into them deeply. But he has gone profoundly into others, and his style is as clean and clear and lively English, as his thought is strong and original. His ideas are sure to form the storm-centre for the philosophy of at least the next decade. . . .

XXXIII

LAURA BRIDGMAN¹

[1904]

THE world changes, and the minds of men. Helen Keller outstrips Laura Bridgman, as Rudyard Kipling outstrips Maria Edgeworth. Will Helen herself appear quaint and old-fashioned fifty years hence, to a generation spoiled by some still more daring recipient of its sympathy and wonder? We can answer such a question as little as Dr. Howe could have answered it fifty years ago; for the high-water mark of one age in every line of its prowess always seems "the limit,"—at any rate the only limit positively imaginable to those who are living,—and just what form and what direction Evolution will strike into when she takes her next step into novelty is ever a secret till the step is made.

Laura was the limit in her day. The child of seven was dumb and blind and almost without the sense of smell, with no plaything but an old boot which served for a doll, and with so little education in affection that she had never been taught to kiss.

¹ *Laura Bridgman. Dr. Howe's Famous Pupil and what He taught Her.* By Maud Howe and Florence Howe Hall. Boston: Little, Brown & Co. 1903. [Reprinted with omissions from *Atlantic Monthly*, January, 1904, 93, 95-98. Ed.]

She was sternly handled at home, and was irascible and an object of fear and pity to all but one of the village neighbors, and that one was half-witted. The way in which she became in a few years, through Dr. Howe's devotion, an educated girl, delicate-mannered, spiritual-minded, and sweet-tempered, seemed such a miracle of philanthropic achievement that the fame of it spread not only over our country, but throughout Europe. It was regarded as a work of edification, a missionary feat. The Sunday-schools all heard of Laura as a soul buried alive but disentombed and brought into God's sunlight by science and religion working hand in hand. The few other blind deaf-mutes on whom attempts at rescue had been made—Oliver Caswell, Julia Brace, and others—were so inferior that Laura's decidedly attenuated personality stood for the extreme of richness attainable by humanity when its experience was limited to the sense of touch alone. Of such all-sided ambitions and curiosities, of such untrammelled soarings and skimmings over the fields of language, of such completeness of memory and easy mastery of realities as Helen Keller has shown us, no one then had a dream.

It is now indeed the age of Kipling *versus* that of Edgeworth. Laura was primarily regarded as a phenomenon of conscience, almost a theological phenomenon. Helen is primarily a phenomenon of vital exuberance. Life for her is a series of adventures, rushed at with enthusiasm and fun. For

Laura it was more like a series of such careful indoor steps as a convalescent makes when the bed days are over. Helen's age is that of the scarehead and portrait bespattered newspaper. In Laura's time the papers were featureless, and the public found as much zest in exhibitions at institutions for the deaf and dumb as it now finds in football games.

In contrast with the recklessly sensational terms in which everything nowadays expresses itself, there seems a sort of white veil of primness spread over this whole biography of Laura. All those who figure in it bear the stamp of conscience. Dr. Howe himself took his educative task religiously. It was his idea, as it was that of all the American liberals of his generation, that the soul has intuitive religious faculties which life will awaken, independently of revelation. Laura's nature was intensely moral,—almost morbidly so, in fact,—and assimilated the conception of a Divine Ruler with great facility; but it does not appear certain that such an idea would have come to her spontaneously. She was easily converted into revivalistic evangelicism at the age of thirty-three, through communications which her biographers deplore as having perverted her originally optimistic faith. Her spiritual accomplishments seem to have been regarded rather as matters for wonder by the public of her day. But, granted a nature with a bent in the spiritual direction, it is hard to imagine conditions more favorable to its development than Laura's. Her immediate life, once it was redeemed (as Dr. Howe re-

deemed it) from quasi-animality, was almost wholly one of conduct toward other people. Her relations to "things," only tactile at best, were for the most part remote and hearsay and symbolic. Personal relations had to be her foreground,—she had to think in terms almost exclusively social and spiritual.

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There are endless interesting traits, some of them humanly touching, some of them priceless to the psychologist, scattered through this life of Laura. The question immediately suggests itself, Why was Laura so superior to other deaf-mutes, and why is Helen Keller so superior to Laura? Since Galton first drew attention to the subject, every one knows that in some of us the material of thought is mainly optical, in others auditory, etc., and the classification of human beings into the eye-minded, the ear-minded, and the motor-minded, is familiar. Of course if a person is born to be eye-minded, blindness will maim his life far more than if he is ear-minded originally. If ear-minded, deafness will maim him most. If he be natively constructed on a touch-minded or motor-minded plan, he will lose less than the others from either blindness or deafness. Touch-images and motor-images are the only terms that subjects "congenitally" blind and deaf can think in. It may be that Laura and Helen were originally meant to be more "tactile" and "motile" than their less successful rivals in the race for education, and that Helen, being

more exclusively motor-minded than any subject yet met with, is the one least crippled by the loss of her other senses.

But such comparisons are vague conjectures. What is not conjecture, but fact, is the philosophical conclusion which we are forced to draw from the cases both of Laura and of Helen. Their entire thinking goes on in tactile and motor symbols. Of the glories of the world of light and sound they have no inkling. Their thought is confined to the pallidest verbal substitutes for the realities which are its object. The mental material of which it consists would be considered by the rest of us to be of the deadliest insipidity. Nevertheless, life is full of absorbing interest to each of them, and in Helen's case thought is free and abundant in quite exceptional measure. What clearer proof could we ask of the fact that the relations among things, far more than the things themselves, are what is intellectually interesting, and that it makes little difference what terms we think in, so long as the relations maintain their character. All sorts of terms can transport the mind with equal delight, provided they be woven into equally massive and far-reaching schemes and systems of relationship. They are then equivalent for intellectual purposes, and for yielding intellectual pleasure, for the schemes and systems are what the mind finds interesting.

Laura's life should find a place in every library. Dr. Howe's daughters have executed it with tact and feeling. No reader can fail to catch some-

COLLECTED ESSAYS AND REVIEWS [1904]

thing of Laura's own touching reverence for the noble figure of "the Doctor." And if the ruddier pages which record Helen's exploits make the good Laura's image seem just a little anæmic by contrast, we cannot forget that there never could have been a Helen Keller if there had not been a Laura Bridgman.

XXXIV

G. PAPINI AND THE PRAGMATIST MOVEMENT IN ITALY ¹

[1906]

AMERICAN students have so long had the habit of turning to Germany for their philosophic inspiration, that they are only beginning to recognize the splendid psychological and philosophical activity with which France to-day is animated; and as for poor little Italy, few of them think it necessary even to learn to read her language. Meanwhile Italy is engaged in the throes of an intellectual *rinascimento* quite as vigorous as her political one. Her sons still class the things of thought somewhat too politically, making partizan capital, clerical or positivist, of every conquest or concession, but that is only the slow dying of a habit born in darker times. The ancient genius of her people is evidently unweakened, and the tendency to individualism that has always marked her is beginning to mark her again as strongly as ever, and nowhere more notably than in philosophy.

As an illustration, let me give a brief account of the aggressive movement in favor of "pragmatism"

[¹ Reprinted from *Journal of Philosophy, Psychology, and Scientific Methods*, 1906, 3, 337-341. Ed.]

which the monthly journal *Leonardo* (published at Florence, and now in its fourth year) is carrying on, with the youthful Giovanni Papini tipping the wedge of it as editor, and the scarcely less youthful names of Prezzolini, Vailati, Calderoni, Amendola, and others, signing the more conspicuous articles. To one accustomed to the style of article that has usually discussed pragmatism, Deweyism, or radical empiricism, in this country, and more particularly in this *Journal*, the Italian literature of the subject is a surprising, and to the present writer a refreshing, novelty. Our university seminaries (where so many bald-headed and bald-hearted young aspirants for the Ph.D. have all these years been accustomed to bore one another with the pedantry and technicality, formless, uncircumcised, unabashed, and unrebuked, of their "papers" and "reports") are bearing at last the fruit that was to be expected, in an almost complete blunting of the literary sense in the more youthful philosophers of our land. Surely no other country could utter in the same number of months as badly written a philosophic mass as ours has published since Dewey's *Studies in Logical Theory* came out. Germany is not "in it" with us, in my estimation, for uncouthness of form.

In this Florentine band of Leonardists, on the other hand, we find, instead of heaviness, length, and obscurity, lightness, clearness, and brevity, with no lack of profundity or learning (quite the reverse, indeed), and a frolicsomeness and impertinence that

wear the charm of youth and freedom. Signor Papini in particular has a real genius for cutting and untechnical phraseology. He can write descriptive literature, polychromatic with adjectives, like a decadent, and clear up a subject by drawing cold distinctions, like a scholastic. As he is the most enthusiastic pragmatist of them all (some of his colleagues make decided reservations) I will speak of him exclusively. He advertises a general work on the pragmatist movement as in press; but the February number of *Leonardo* and the last chapter of his just published volume, *Il Crepuscolo dei Filosofi*,¹ give his programme, and announce him as the most radical conceiver of pragmatism to be found anywhere.

The *Crepuscolo* book calls itself in the preface a work of "passion," being a settling of the author's private accounts with several philosophers (Kant, Hegel, Schopenhauer, Comte, Spencer, Nietzsche) and a clearing of his mental tables from their impeding rubbish, so as to leave him the freer for constructive business. I will only say of the critical chapters that they are strongly thought and pungently written. The author hits essentials, but he doesn't always cover everything, and more than he has said, either for or against, remains to be said about both Kant and Hegel. It is the preface and the final chapter of the book that contain the passion. The "good riddance," which is Papini's cry of farewell to the past of philosophy, seems most of

¹ Milano: Società Editrice Lombarda.

all to signify for him a good-by to its exaggerated respect for universals and abstractions. Reality for him *exists* only *distributively*, in the particular concretes of experience. Abstracts and universals are only instruments by which we meet and handle these latter.

In an article in *Leonardo* last year,¹ he states the whole pragmatic scope and programme very neatly. Fundamentally, he says, it means an *unstiffening* of all our theories and beliefs by attending to their *instrumental* value. It incorporates and harmonizes various ancient tendencies, as

1. *Nominalism*, by which he means the *appeal to the particular*. Pragmatism is nominalistic not only in regard to words, but in regard to phrases and to theories.

2. *Utilitarianism*, or the emphasizing of practical aspects and problems.

3. *Positivism*, or the disdain of verbal and useless questions.

4. *Kantism*, in so far as Kant affirms the primacy of practical reason.

5. *Voluntarism*, in the psychological sense, of the intellect's secondary position.

6. *Fideism*, in its attitude towards religious questions.

Pragmatism, according to Papini, is thus only a collection of attitudes and methods, and its chief characteristic is its armed neutrality in the midst of doctrines. It is like a corridor in a hotel, from

¹ April, 1905, p. 45.

which a hundred doors open into a hundred chambers. In one you may see a man on his knees praying to regain his faith; in another a desk at which sits some one eager to destroy all metaphysics; in a third a laboratory with an investigator looking for new footholds by which to advance upon the future. But the corridor belongs to all, and all must pass there. Pragmatism, in short, is a great *corridor-theory*.

In the *Crepuscolo* Signor Papini says that what pragmatism has always meant for him is the necessity of enlarging our means of action, the vanity of the universal as such, the bringing of our spiritual powers into use, and the need of making the world over instead of merely standing by and contemplating it. It *inspires human activity*, in short, differently from other philosophies.

"The common denominator to which all the forms of human life can be reduced is this: *the quest of instruments to act with*, or, in other words, *the quest of power*."

By "action" Signor Papini means any change into which man enters as a conscious cause, whether it be to add to existing reality or to subtract from it. Art, science, religion, and philosophy all are but so many instruments of change. Art changes things for our vision; religion for our vital tone and hope; science tells us how to change the course of nature and our conduct towards it; philosophy is only a more penetrating science. Tristan and Isolde, Paradise, Atoms, Substance, neither of them copies any-

thing real; all are creations placed above reality, to transform, build out, and interpret it in the interests of human need or passion. Instead of affirming with the positivists that we must render the ideal world as similar as possible to the actual, Signor Papini emphasizes our duty of turning the actual world into as close a copy of the ideal as it will let us. The various ideal worlds are here because the real world fails to satisfy us. They are more adapted to us, realize more potently our desires. We should treat them as *ideal limits* towards which reality must evermore be approximated.

All our ideal instruments are as yet imperfect. Arts, religions, sciences, philosophies, have their vices and defects, and the worst of all are those of the philosophies. But philosophy can be regenerated. Since change and action are the most general ideals possible, philosophy can become a "*pragmatic*" in the strict sense of the word, meaning a *general theory of human action*. Ends and means can here be studied together, in the abstractest and most inclusive way, so that philosophy can resolve itself into a comparative discussion of all the possible programs for man's life when man is once for all regarded as a creative being.

As such, man becomes a kind of god, and where are we to draw his limits? In an article called "From Man to God" in the *Leonardo* for last February Signor Papini lets his imagination work at stretching the limits. His attempt will be called Promethean or bullfroggian, according to the tem-

per of the reader. It has decidedly an element of literary swagger and conscious impertinence, but I confess that I am unable to treat it otherwise than respectfully. Why should not the divine attributes of omniscience and omnipotence be used by man as the pole-stars by which he may methodically lay his own course? Why should not divine *rest* be his own ultimate goal, rest attained by an activity in the end so immense that all desires are satisfied, and no more action necessary? The unexplored powers and relations of man, both physical and mental, are certainly enormous; why should we impose limits on them *a priori*? And, if not, why are the most utopian programmes not in order?

The programme of a Man-God is surely one of the possible great type-programmes of philosophy. I myself have been slow in coming into the full inwardness of pragmatism. Schiller's writings and those of Dewey and his school have taught me some of its wider reaches; and in the writings of this youthful Italian, clear in spite of all their brevity and audacity, I find not only a way in which our English views might be developed farther with consistency—at least so it appears to me—but also a tone of feeling well fitted to rally devotees and to make of pragmatism a new militant form of religious or quasi-religious philosophy.

The supreme merit of it in these adventurous regions is that it can never grow doctrinarian in advance of verification, or make dogmatic pretensions.

When, as one looks back from the actual world

that one believes and lives and moves in, and tries to understand how the knowledge of its content and structure ever grew up step by step in our minds, one has to confess that objective and subjective influences have so mingled in the process that it is impossible now to disentangle their contributions or to give to either the primacy. When a man has walked a mile, who can say whether his right or his left leg is the more responsible? and who can say whether the water or the clay is most to be thanked for the evolution of the bed of an existing river? Something like this I understand to be Messrs. Dewey's and Schiller's contention about "truth." The subjective and objective factors of any presently functioning body of it are lost in the night of time and indistinguishable. Only the way in which we see a new truth develop shows us that, by analogy, subjective factors must always have been active. Subjective factors thus are potent, and their effects remain. They are in *some* degree creative, then; and this carries with it, it seems to me, the admissibility of the entire Italian pragmatistic programme. But, be the God-Man part of it sound or foolish, the Italian pragmatists are an extraordinarily well-informed and gifted, and above all an extraordinarily free and spirited and unpedantic, group of writers.

XXXV

THE MAD ABSOLUTE¹

[1906]

MR. GORE, in this *Journal* for October 11, tries very neatly to turn Mr. Schiller's joke on the absolute against the joker, and I suppose that those whom the latter gentleman's jokes vex are correspondingly content.

But are the tables turned?

It is *we* in our dissociated, finite shapes who are made, says Mr. Gore, and not the absolute. The absolute in its integrated shape is the very beau ideal of sanity, and in our own successful quest of it, he adds, lies our only hope of cure. Get confluent with one another, restore the original unbrokenness of our infinitely inclusive real self, and the universe will wake up well.

But in the name of all that's absolute how did it ever get so sick? That we finite subjects are sick we know well enough, and no philosophy beyond the plainest lessons of our finite experience is needed to teach us that more union among ourselves would be remedial. But if all these distracted persons of

[¹ Reprinted from *Journal of Philosophy, Psychology, and Scientific Methods*, 1906, 3, 656-657. It was written in reply to W. C. Gore's "The Mad Absolute of a Pluralist," *ibid.*, 575-577; and in support of F. C. S. Schiller's "Idealism and the Dissociation of Personality," *ibid.*, 477-482. Ed.]

ours really signify the absolute in a state of madness, why, how or when did it get mad? If it was ever sane, its friends ought surely to explain. Moreover, in that case must it be supposed that we have once for all superseded and abolished its primal wholeness, or does the wholeness still obtain entire behind the scenes, coexisting with our fragmentary persons, and, like another Sally Beauchamp, knowing about us all the while we know so little about it?

If the former alternative be the true one, we are back in the time-process and the mystery of a fall, re-edited in these days by Messrs. Renouvier and Prat. Mr. Gore's monist puts the case in time-form, as a dramatic event, and seems to adopt this horn of the dilemma. But another monist might consider this unorthodox, and insist that the absolute is "timeless" and that it lives, Sally-like, alongside of our split-off selves.

But in this latter case what would be the significance of that reunion of these selves, from which, according to the absolutist philosophy, we are to hope for a cure? Is it to produce a second absolute, duplicating the first one? Or is it to be imagined as a reabsorption rather, with only the one indivisible primary absolute left? How ought we to conceive it at all? Reabsorption would seem inadmissible on absolutist principles. It would hardly go without the time-process; and would moreover be strongly suggestive of the cure of a disease *upon* the eternal absolute subject, much as an eruption may

break out and be "resolved" again upon one's skin. But the absolute can have no skin, no outside.

I doubt, therefore, whether Mr. Gore's monist has greatly helped his client's plight. Nor would it essentially mend matters for him simply to declare that the absolute is eternally three things—its pure identical self, the finite emanation or eruption and the reabsorption, all in one. And yet I believe that the path that Mr. Schiller and he have struck into is likely to prove a most important lead. The absolute is surely one of the great hypotheses of philosophy; it must be thoroughly discussed. Its advocates have usually treated it only as a logical necessity; and very bad logic, as it seems to me, have they invariably used. It is high time that the hypothesis of a world-consciousness should be discussed seriously, as we discuss any other question of fact; and that means inductively and in the light of all the natural analogies that can be brought to bear. No philosophy can ever do more than interpret the whole, which is unknown, after the analogy of some particular part which we know. So far, Fechner is the only thinker who has done any elaborate work of this kind on the world-soul question, although Royce deserves praise for having used arguments for analogy along with his logical proofs. I cannot help thinking that Fechner's successors, if he ever have any, must make great use of just such cases as the one so admirably analyzed and told by Dr. Prince.¹

¹ Morton Prince, *The Dissociation of a Personality*.

XXXVI

CONTROVERSY ABOUT TRUTH¹

[1907]

TO THE EDITORS OF THE JOURNAL OF PHILOSOPHY,
PSYCHOLOGY AND SCIENTIFIC METHODS:

The pragmatistic conception of truth is so important that no amount of printer's ink spent upon it ought to be considered wasted. My exposition of it in No. 6 of this year's *Journal* was sent back to me with copious critical annotations on its margins by Prof. John E. Russell. This led to an exchange of letters between us, in which one issue, at least, got sharpened; and as that issue is probably the most prevalent stumbling-block, I ask you, in the interest of clarifying the question, to print the correspondence as it was written. I subjoin our letters.

Sincerely yours,

WILLIAM JAMES.

I

DEAR RUSSELL: Your notes bring out the exact point of misunderstanding, and the exact difficulty with which pragmatism has to cope in making converts.

[¹ A series of letters exchanged with Prof. John E. Russell of Williams College. Reprinted from *Journal of Philosophy, Psychology, and Scientific Methods*, 1907, 4, 289-296. Ed.]

You say: "*Events in the way of verification do not make an idea true, they only prove that it is true or was true*"—there is the whole difference between us in a nutshell.

The statement seems to mean that truth is a quality of the idea *numerically distinct* from the events which are its proof; but don't you then think that the said quality ought to be somehow definable as it is *in* and *per se*? I hoped for the definition as I read your comments; but in the end I found no new definition, only the old ones of "agreement with reality" and of "thinking the reality as it is."

Now what does agreement mean? Does it mean anything different from (or prior to) the copyings and leadings by which pragmatism explicates the word? These are perfectly well-defined relations of the idea to the reality or to the reality's associates and surroundings.

And what does "thinking the reality as it is" mean unless it be either copying it, or leading straight up to it, or thinking it in its right surroundings—which last notion means terminating at places to which it, the reality, also leads?

You speak of Leverrier's idea of Neptune being true before it had led him to verify it. Doubtless! but pray *define* its truth *apart* from those leadings and guidings. The word truth *means* just such leadings and guidings. Had his idea led him to point his telescope to a vacant part of the sky, it would have been untrue—is untruth, then, also a resident and previous quality in ideas? Leading to

that point, Leverrier's idea certainly was true—I can conceive no other kind of truth—and, of course, quite as true when only verifiable as it was after the verification. Even so the star was Neptune both before and after its baptism, for in the star universe that star is all that Neptune ever can mean.

In the case of Neptune you don't separate the name from the fact found, and make it a cause thereof; you don't say the star was found at that point because it was Neptune; but in the case of the idea you say it led to that point because it was true. But just as Neptune means nothing but the star which at a certain moment is at that point, so true means nothing but the idea which, instead of leading you elsewhere, leads you thither. Otherwise it's like raising a dispute about whether blood is red because it looks so, or looks so because it's red. *You* ought to insist on the latter formula; *I* call them equally correct. You may say either that the leading *makes* the idea true or that it *proves* it true, for you are only talking of the same thing in different words: The leading both makes you call the idea true, and proves that you have called it so justly.

Take another illustration. Does bread nourish us because it is food? Or is it food because it nourishes? Or, finally, are being food and nourishing only two ways of naming the same physiological events? And if this last view be correct here, why isn't it just as correct in the case of truth?

The concrete facts denoted by the word truth are

ideas that guide us towards certain termini. Other connotations of the word than these same guidings it is for you to show. If you can't, then we may say either that the ideas are true because they guide, or that they guide because they are true: To be true and to guide are precisely equipollent terms of which you may make either you like the more primordial in significance.

Otherwise (and this is the point which I emphasize, and on which I insist) you must point out some substantive connotation in the word truth *over and above* such guiding processes. If you can do this, I surrender; but I don't see how you can do it.

It seems to me that there is no other connotation, any more than there is in the case of Neptune. Neptune means the star that gets *there*, and true means the idea that "gets there." Agreement, correspondence, thinking the object as it is, all resolve themselves into guidings, into "getting there" somehow. You argue as if, in spite of its getting there, an idea might still be false, unless the intrinsic epistemological virtue of being true were superadded. I wish you'd explain how. To me it couldn't be false under those circumstances.

Revert to food. In this case we do have some additional connotations—a certain chemical structure, say—that explain the physiological events in advance. (We know nothing of such connotations as yet, but we suppose they may some day be known.) If the word food should connote primarily such chemical structure, and only secondarily digestions,

absorptions, etc., then you might contend that bread nourishes because it is food, and isn't food because it nourishes. But you would still be on purely verbal ground; and even then you would have to define positively these new-fangled connotations.

Meanwhile please observe that the word true has absolutely no such further connotations; it has no more of them than Neptune has. It denotes certain ideas, and it connotes their "getting there."

Here I must leave the matter. As a pragmatist, I can defy you to find any other practical meaning to the word truth than that it guides and gets us there. If, *failing to do that*, you nevertheless call our account an inadequate account of what you mean by truth, why then, again as a pragmatist, I can wash my hands of the whole controversy. It is trivial. It has no meaning.

Yours, etc.,

WILLIAM JAMES.

II

DEAR JAMES: I think the issue between the intellectualist and the pragmatist narrows itself down to the question of the validity and value of two distinctions. The first is the distinction between the idea's being true and the *proof* that the idea is true. The second distinction is that between a true idea and its instrumental function in leading, guiding behavior to desirable issues in experience.

The intellectualist insists that these distinctions

are valid and important to a right conception of knowledge. The pragmatist denies this; he contends that the terms "true," "truth," "leading," "guiding," "getting there," etc., are different names for the same thing; that the term "truth" applied to an idea has the same function that the name "Neptune," for instance, has when applied to a particular planetary body in the heavens. The pragmatist, after having made "agreeing with reality," "being as it is thought," etc., mean leading, guiding, coming into practical relations with, getting there, etc., challenges the intellectualist to point out any other significant connection which his terms "true," "truth," etc., can have. The pragmatist says to the intellectualist, "I pray you to define the truth of an idea *apart* from its leadings and guidings. I defy you to supply other meanings to the word 'truth' than that of guiding and getting us there. Does 'agreement' mean anything different from that copying and leading by which pragmatism explicates this word?"

Now this puts the intellectualist in a hard situation. If he answers, "I mean by a true idea, an idea that agrees with, that copies or corresponds to reality," the pragmatist replies, "But what *is* it to agree with, to copy, etc., reality, if it be not just to lead, to guide, to get there?" Now what can the intellectualist say in reply? Suppose he undertakes to define his meaning of truth in different terms, these terms would suffer the same fate; the pragmatist would explicate them in his terms, of lead-

ing, guiding, getting there, etc., and then ask the naked intellectualist to put on different garments.

I can see no other way by which the intellectualist can escape this dilemma than *simply to abide by the terms by which he has defined a true idea*, and insist that it is the pragmatist who has forced upon these terms a meaning they can not take without involving one in intellectual confusion. The intellectualist should, therefore, maintain that the terms in which he explicates the meaning of a true idea give a perfectly defined relation of the idea to reality. What more definite relation can legitimately be demanded? How can the intellectualist in fairness be asked to define in other terms what he means by "agreement with," by "copying," by "thinking reality as it is"? May he not with more propriety ask the pragmatist by what right he makes these terms mean leading, guiding, getting there, etc.?

This leads me to the real issue between the intellectualist and the pragmatist, and first to that distinction between an idea's being true and the proof that it is or was true. Let us take the case of Leverrier and the discovery of the planet Neptune. We have the following things:—

1. Certain perturbations in the motions of the planet Uranus which could not be explained by the influence of the known bodies of the solar system.

2. We have Leverrier's idea of a planetary body of a certain mass and position in the heavens.

3. We have the agreement between the calculated perturbations which this hypothetical body should produce in the motions of Uranus, and the actual perturbations observed.

4. We have the discovery of this planet, afterwards named Neptune, by a German astronomer who, following the suggestion of Leverrier, pointed his telescope to that exact spot in the heavens where this planet was.

Now the intellectualist contends that Leverrier's hypothetical conception was true the instant it existed in his mind, and that the trueness of his idea consisted in its agreement with a fact, a piece of reality, an object at that time existing, viz., that planet occupying a particular place in the physical universe. It was the existence of Neptune then and there which made it possible for him to have a true idea at that time. Had he thought differently about this planet, this same body would have made his thought *untrue*. His idea was true for *no other reason*, and true in *no other meaning* of the terms, than that it agreed with its object. Furthermore, the contention of the intellectualist is, that had Leverrier gone no farther in his undertaking, had no telescope ever discovered that planet, his idea would have been as true as it was after the discovery which completed the verification of his hypothesis. His idea did not get its quality of truth by the process of verification—this only produced the certainty in his and in other minds that this idea was true. It is one thing for an idea to be true—it is

quite a different thing to *prove* that this idea is true. It is one thing to hit a mark; to *know* that you have hit the mark is a different thing. A bell may ring to let you know that you have made a bull's-eye; the ringing of the bell is the sign, the criterion, of the correctness of your aim, but it hardly constitutes the trueness of your aim, or your making the bull's-eye. Leverrier's idea hit its mark; what was subsequently done made that fact known. Truth and verification are therefore different things, and to make the truth or the verity of an idea consist in its verification is to introduce mental confusion, and to make unintelligible such a procedure as Leverrier's in the discovery of Neptune. It is true to say that a true idea is one that can be verified, and that only true ideas can be verified, but, then, these ideas are not true *because* they are verified; they are verifiable because they are already true.

This brings the intellectualist to the second distinction upon which he insists, viz., the distinction between truth and its valuation in terms of desirable experience. To say that truth should have good practical consequences, that those ideas are true which work well in practice, that every true idea leads into satisfying experiences of some sort, is to say what no intellectualist need deny. But to say that an idea is true *because* it has this practically good issue, or because it works well, is to say quite a different thing, and something which no intellectualist can accept. "There are," so contends the intellectualist, "conditions on which our

human action or the course of experience depends, and to which our actions, our experiences, must conform if they are to have successful and satisfying issues. Only as a particular experience is in agreement with conditions of experience *überhaupt* can it lead to beneficial or desirable experiences. Ideas, therefore, can work well, can lead successfully, only if they first agree with reality, with the objective and determining conditions of our experience." This is just the fact that the pragmatist overlooks when he identifies the truth of an idea with its practically good leadings and consequences. He insists that truth shall be practical, but he fails to answer the question, *How* can an idea, or a course of experience, have a practically good leading or result?

To take your illustration of bread as food: you ask: "Does bread nourish because it is 'food,' or is it food because it nourishes? Or are being food and nourishing only two ways of meaning the same physiological events?" The intellectualist answers: "Bread nourishes us because it contains those chemical elements which are nutritive. A particular substance is not bread because it nourishes—it nourishes because it is bread. Being food and nourishing *are* two ways of meaning the same physiological events; but being *bread* and nourishing are not two ways of meaning the same physiological events."

The intellectualist need not deny that a true idea has an instrumental function in relation to our

various needs; that a true idea is a tool to be used in the service of the will or our practical nature; but he contends that the efficiency of the instrument, the serviceableness of the tool, depends upon the construction of the instrument, upon the quality of the tool. That a knife cuts well, proves, indeed, that it *is* a good knife; but that which enables the knife to cut well is the quality of the steel and the fashion of the instrument—in other words, the knife cuts well because it was rightly made. Its cutting well merely proves that the knife *was rightly made*. The proof of the pudding is in the eating; but it will hardly do to say, therefore the good eating is the pudding, or is that in the pudding which gives us that satisfying experience of eating this pudding.

Yours, etc.,

JOHN E. RUSSELL.

III

DEAR RUSSELL: Your letter is so ultraclear and brings the question down to where the wool is so short, that I can't help dashing off one more word, though I know I can't convert you.

First, I note with extreme pleasure your explicit confession that "truth" in the intellectualist sense cannot be further defined. It means "agreement," and agreement means "truth." That is one point clearly gained.

My second remark is simply this: If "true" be not an abstract name for the property of verifiabil-

ity in an idea, then an idea might conceivably be true though absolutely unverifiable. There might be no empirical mediation between it and its object, no leading either to the object, or towards it, or into its associates, and yet it might still be true as "agreeing" with the object.

But then you are met by Royce's old argument: How do you know it *means* to be true of *that* object? It might "agree" perfectly in the sense of copying, yet not be true, unless it *meant* to copy, *und zwar* that particular original. An egg isn't true of another egg, because it is not supposed to aim at the other egg at all, or to intend it. Neither is my toothache true of your toothache. Royce makes the absolute do the aiming and intending. I make the chain of empirical intermediaries do it. *What does it in your philosophy?*

Yours, etc.,

WILLIAM JAMES.

IV

DEAR JAMES: According to the meaning of a true idea I have been maintaining, it does follow not only that an idea is true prior to its verification, but also that an idea may remain unverified in our human experience. I would not, however, say that an idea can be true and be absolutely unverifiable; for there may be such a being as Royce's absolute, and if so, no true idea can remain unverified. In the experience of the Roycean absolute, truth and

verification do not fall apart as they do in our human experience. The Roycean question with which you confront me, I must confess, has never given me a pause or seemed a serious one at all. "How do you know that your idea means to be true of its object?" I answer: "When I think, I know what I am thinking about, just as I know what mark I am aiming at when I am engaged in target-shooting. My thinking as such is selective of its object, and knows its own intent, viz., to think that object as that object is. My thought picks out this particular piece of the real world, and means to agree with it, just as I pick out my target and intend to hit it. For instance, I am now thinking of you, among your books, in your study at Cambridge; I mean to think of you and your immediate surroundings, your present doings, as you and they are now at this hour,—ten o'clock in the morning. In so doing, I know what object I mean to agree with in my present thinkings."

Now the Roycean absolute may exist, and if it does, he of course knows whether or not my present thought of you is now true; but the knowing of that being is no more necessary to constitute the truth of my idea or to explain the fact that I aim at you in my idea, than is the presence of an onlooker when I am shooting at a mark essential to my aiming at and hitting or missing that mark. Nor does it seem to me that your chain of intermediaries is in any manner essential to the meaning, the intent, or the truth of my present thought of you, which is

sufficient unto itself both to select its object and to determine its truth or untruth.

Yours, etc.,

JOHN E. RUSSELL.

V

DEAR RUSSELL: We seem now to have laid bare our exact difference. According to me "meaning" a certain object and "agreeing" with it are abstract notions of both of which definite concrete accounts can be given.

According to you, they shine by their own inner light and no further account can be given. They may even "obtain" (in cases where human verification is impossible) and make no empirical difference to us. To me, using the pragmatic method of testing concepts, this would mean that the word "truth" might on certain occasions have no meaning whatever. I still must hold to its having always a meaning, and continue to contend for that meaning being unfoldable and representable in experiential terms.

Yours, etc.,

WILLIAM JAMES.

XXXVII

REPORT ON MRS. PIPER'S HODGSON-CONTROL ¹

[1909]

. . . THAT a "will-to-personate" is a factor in the Piper-phenomenon, I fully believe, and I believe with unshakable firmness that this will is able to draw on supernormal sources of information. It can "tap," possibly the sitter's memories, possibly those of distant human beings, possibly some cosmic reservoir in which the memories of earth are stored, whether in the shape of "spirits" or not. If this were the only will concerned in the performance, the phenomenon would be humbug pure and simple, and the minds tapped telepathically in it would play an entirely passive rôle—that is, the telepathic data would be fished out by the personating will, not forced upon it by desires to communicate, acting externally to itself.

But it is possible to complicate the hypothesis. Extraneous "wills to communicate" may contribute to the results as well as a "will to personate," and the two kinds of will may be distinct in entity,

[¹ Selection reprinted from *Proceedings of the American Society for Psychical Research*, 1909, 3, 583-589. The report also appeared in the *Proceedings of the [English] Society for Psychical Research*, 1909, 23, 1-121. This selection consists of general conclusions appended to a report of sittings with Mrs. Piper in which alleged messages from the late Richard Hodgson are recorded and tested. See note above, p. 438. Ed.]

though capable of helping each other out. The will to communicate, in our present instance, would be, on the *prima facie* view of it, the will of Hodgson's surviving spirit; and a natural way of representing the process would be to suppose the spirit to have found that by pressing, so to speak, against "the light," it can make fragmentary gleams and flashes of what it wishes to say mix with the rubbish of the trance-talk on this side. The two wills might thus strike up a sort of partnership and stir each other up. It might even be that the "will to personate" would be inert unless it were aroused to activity by the other will. We might imagine the relation to be analogous to that of two physical bodies, from neither of which, when alone, mechanical, thermal, or electrical effects can proceed, but if the other body be present, and show a difference of "potential," action starts up and goes on apace.

Conceptions such as these seem to connect in schematic form the various elements in the case. Its essential factors are done justice to; and, by changing the relative amounts in which the rubbish-making and the truth-telling wills contribute to the resultant, we can draw up a table in which every type of manifestation, from silly planchette-writing up to Rector's best utterances, finds its proper place. Personally, I must say that, although I have to confess that no crucial proof of the presence of the "will to communicate" seems to me yielded by the Hodgson-control taken alone, and in the sittings to which I have had access, yet the total effect in the

way of dramatic probability of the whole mass of similar phenomena on my mind, is to make me believe that a "will to communicate" *is* in some shape there. I cannot demonstrate it, but practically I am inclined to "go in" for it, to bet on it and take the risks.

The question then presents itself: In what shape is it most reasonable to suppose that the will thus postulated is actually there? And here again there are various pneumatological possibilities, which must be considered first in abstract form. Thus the will to communicate may come either from permanent entities, or from an entity that arises for the occasion. R. H.'s spirit would be a permanent entity; and inferior parasitic spirits ("daimons," elementals, or whatever their traditional names might be) would be permanent entities. An improvised entity might be a limited process of consciousness arising in the cosmic reservoir of earth's memories, when certain conditions favoring systematized activity in particular tracts thereof were fulfilled. The conditions in that case might be conceived after the analogy of what happens when two poles of different potential are created in a mass of matter, and cause a current of electricity, or what not, to pass through an intervening tract of space until then the seat of rest.

To consider the case of permanent entities first, there is no *a priori* reason why human spirits and other spiritual beings might not either co-operate at the same time in the same phenomenon, or alter-

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nately produce different manifestations. *Prima facie*, and as a matter of "dramatic" probability, other intelligences than our own appear on an enormous scale in the historic mass of material which Myers first brought together under the title of Automatisms. The refusal of modern "enlightenment" to treat "possession" as an hypothesis to be spoken of as even possible, in spite of the massive human tradition based on concrete experience in its favor, has always seemed to me a curious example of the power of fashion in things scientific. That the demon-theory will have its innings again is to my mind absolutely certain. One has to be "scientific" indeed, to be blind and ignorant enough to suspect no such possibility. But if the liability to have one's somnambulistic or automatic processes participated in and interfered with by spiritual entities of a different order ever turn out to be a probable fact, then not only what I have called the will to communicate, but also the will to *personate* may fall outside of the medium's own dream-life. The humbugging may not be chargeable to her all alone, centres of consciousness lower than hers may take part in it, just as higher ones may occasion some of the more inexplicable items of the veridical current in the stream.

The plot of possibilities thus thickens; and it thickens still more when we ask how a will which is dormant or relatively dormant during the intervals may become consciously reanimated as a spirit-personality by the occurrence of the medium's

trance. A certain theory of Fechner's helps my own imagination here, so I will state it briefly for my reader's benefit.

Fechner in his *Zend-Avesta* and elsewhere¹ assumes that mental and physical life run parallel, all memory-processes being, according to him, co-ordinated with material processes. If an act of yours is to be consciously remembered hereafter, it must leave traces on the material universe such that when the *traced parts of the said universe systematically enter into activity together* the act is consciously recalled. During your life the traces are mainly in your brain; but after your death, since your brain is gone, they exist in the shape of all the records of your actions which the outer world stores up as the effects, immediate or remote, thereof, the cosmos being in some degree, however slight, made structurally different by every act of ours that takes place in it.² Now, just as the air of

¹ *Zend-Avesta*, second edition, 1901, Sec. XXI., and following. Compare also Elwood Worcester: *The Living Word*, New York, Moffatt, Yard & Co., 1908, Part II., in which a more popular account of Fechner's theory of immortality is given. And William James, *A Pluralistic Universe*, Longmans, Green and Co. 1909, Lecture IV.

² "It is Händel's work, not the body with which he did the work, that pulls us half over London. There is not an action of a muscle in a horse's leg upon a winter's night as it drags a carriage to the Albert Hall but what is in connection with, and part outcome of, the force generated when Händel sat in his room at Gopsall and wrote the Messiah. . . . This is the true Händel, who is more a living power among us one hundred and twenty-two years after his death than during the time he was amongst us in the body."—Samuel Butler, in the *New Quarterly*, I., 303, March, 1908.

the same room can be simultaneously used by many different voices for communicating with different pairs of ears, or as the ether of space can carry many simultaneous messages to and from mutually attuned Marconi-stations, so the great continuum of material nature can have certain tracts within it thrown into emphasized activity whenever activity begins in any part or parts of a tract in which the potentiality of such systematic activity inheres. The bodies (including, naturally, the brains) of Hodgson's friends who come as sitters, are of course parts of the material universe which carry some of the traces of his ancient acts. They function as receiving stations. Hodgson (at one time of his life at any rate) was inclined to suspect that the sitter himself acts "psychometrically," or by his body being what, in the trance-jargon, is called an "influence," in attracting the right spirits and eliciting the right communications from the other side. If, now, the *rest* of the system of physical traces left behind by Hodgson's acts were by some sort of mutual induction throughout its extent, thrown into gear and made to vibrate all at once, by the presence of such human bodies to the medium, we should have a Hodgson-system active in the cosmos again, and the "conscious aspect" of this vibrating system might be Hodgson's spirit redivivus, and recollecting and willing in a certain momentary way. There seems fair evidence of the reality of psychometry; so that this scheme covers the main phenomena in a vague general way. In particular, it would account

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for the "confusion" and "weakness" that are such prevalent features: the "system" of physical traces corresponding to the given spirit would then be only imperfectly aroused. It tallies vaguely with the analogy of energy finding its way from higher to lower levels. The sitter, with his desire to receive, forms, so to speak, a drainage-opening or sink; the medium, with her desire to personate, yields the nearest lying material to be drained off, while the spirit desiring to communicate is drawn in by the current set up and swells the latter by its own contributions.

It is enough to indicate these various possibilities, which a serious student of this part of nature has to weigh together, and between which his decision must fall. His vote will always be cast (if it ever be cast) by the sense of the dramatic probabilities of nature which the sum total of his experience has begotten in him. *I myself feel as if an external will to communicate were probably there*, that is, I find myself doubting, in consequence of my whole acquaintance with that sphere of phenomena, that Mrs. Piper's dream-life, even equipped with "telepathic" powers, accounts for all the results found. But if asked whether the will to communicate be Hodgson's, or be some mere spirit-counterfeit of Hodgson, I remain uncertain and await more facts, facts which may not point clearly to a conclusion for fifty or a hundred years. . . .

XXXVIII

BRADLEY OR BERGSON? ¹

[1910]

DR. BRADLEY has summed up his *Weltanschauung* in last October's *Mind*,² in an article which for sincerity and brevity leaves nothing to be desired. His thought and Bergson's run parallel for such a distance, yet diverge so utterly at last that a comparison seems to me instructive. The watershed is such a knife-edge that no reader who leans to one side or the other can after this plead ignorance of the motives of his choice.

Bradley's first great act of candor in philosophy was his breaking loose from the Kantian tradition that immediate feeling is all disconnectedness. In his *Logic* as well as in his *Appearance* he insisted that in the flux of feeling we directly encounter reality, and that its form, as thus encountered, is the continuity and wholeness of a transparent much-at-once. This is identically Bergson's doctrine. In affirming the "endosmosis" of adjacent parts of "living" experience, the French writer

[¹ Reprinted from *Journal of Philosophy, Psychology, and Scientific Methods*, 1910, 7, 29-33. Ed.]

[² F. H. Bradley, "Coherence and Contradiction," *Mind*, 1909, N.S. 18, 489-508. Ed.]

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treats the minimum of feeling as an immediately intuited much-at-once.

The idealist tradition is that feelings, aboriginally discontinuous, are woven into continuity by the various synthetic concepts which the intellect applies. Both Bradley and Bergson contradict this flatly; and although their tactics are so different, their battle is the same. They destroy the notion that conception is essentially a unifying process. For Bergson all concepts are discrete; and though you can get the discrete out of the continuous, out of the discrete you can never construct the continuous again. Concepts, moreover, are static, and can never be adequate substitutes for a perceptual flux of which activity and change are inalienable features. Concepts, says Bergson, make things less, not more, intelligible, when we use them seriously and radically. They serve us practically more than theoretically. Throwing their map of abstract terms and relations round our present experience, they show its bearings and let us plan our way.

Bradley is just as independent of rationalist tradition, and is more thoroughgoing still in his criticism of the conceptual function. When we handle felt realities by our intellect they grow, according to him, less and less comprehensible; activity becomes inconstruable, relation contradictory, change inadmissible, personality unintelligible, time, space, and causation impossible—nothing survives the Bradleyan wreck.

The breach which the two authors make with

previous rationalist opinion is complete, and they keep step with each other perfectly up to the point where they diverge. Sense-perception first develops into conception; and then conception, developing its subtler and more contradictory implications, comes to an end of its usefulness for both authors, and runs itself into the ground. Arrived at this conviction, Bergson *drops* conception—which apparently has done us all the good it can do; and, turning back towards perception with its transparent multiplicity-in-union, he takes its data integrally up into philosophy, as a kind of material which nothing else can replace. The fault of our perceptual data, he tells us, is not of nature, but only of extent; and the way to know reality intimately is, according to this philosopher, to sink into those data and get *our sympathetic imagination to enlarge their bounds*. Deep knowledge is not of the conceptually mediated, but of the immediate type. Bergson thus allies himself with old-fashioned empiricism, on the one hand, and with mysticism, on the other. His breach with rationalism could not possibly be more thorough than it is.

Bradley's breach is just as thorough in its first two steps. The form of oneness in the flow of feeling is an attribute of reality which even the absolute must preserve. Concepts are an organ of misunderstanding rather than of understanding; they turn the "reality" which we "encounter" into an "appearance" which we "think." But with all this anti-rationalist *matter*, Bradley is faithful to his

anti-empiricist *manner* to the end. Crude unmediated feelings shall never form a part of "truth." "Judgment, on our view," he writes, "transcends and must transcend the immediate unity of feeling upon which it can not cease to depend. Judgment has to qualify the real ideally. . . . This is the fundamental inconsistency of judgment, . . . for ideas can not qualify reality as reality is qualified immediately in feeling. . . . The reality as conditioned in feeling has been in principle abandoned, while other conditions have not been found."¹

Abandoned in "principle," Mr. Bradley says; and, in sooth, nothing but a sort of religious principle against admitting "untransformed" feeling into philosophy would seem to explain his procedure from here onwards. "At the entrance of philosophy," he says, "there appears to be a point at which the roads divide. By the one way you set out to seek truth in ideas. . . . On this road what is sought is ideas, and nothing else is current. . . . If you enter here you are committed to this principle. . . . [This] whole way doubtless may be delusion; but, if you choose to take this way . . . no possible appeal to designation [*i.e.*, to feeling] in the end is permitted. . . . This I take to be the way of philosophy. . . . It is not the way of life or of common knowledge, and to commit oneself to such a principle may be said to depend upon choice. The way of life starts from and in the

¹ *Mind*, October, 1909, p. 498.

end it rests on dependence upon feeling. . . . Outside of philosophy there is no consistent course but to accept the unintelligible. For worse or for better the man who stands on particular feeling must remain outside of philosophy. . . . I recognize that in life and in ordinary knowledge one can never wholly cease to rest on this ground. But how to take over into ultimate theory and to use there this certainty of feeling, *while still leaving that untransformed*, I myself do not know. I admit that philosophy, as I conceive it, is one-sided. I understand the dislike of it and the despair of it while this its defect is not remedied. But to remedy the defect by importing bodily into philosophy the 'this' and 'thine,' as they are felt, to my mind brings destruction on the spot."¹

Mr. Bradley's "principle" seems to be only that of doggedly following a line once entered on to the bitterest of ends. We encounter reality in feeling, and find that when we develop it into ideas it becomes more intelligible in certain definite respects. We then have "truth" instead of reality; which truth, however, pursued beyond a certain practical point, develops into the whole bog of unintelligibilities through which the critical part of *Appearance and Reality* wades. The wise and natural course at this point would seem to be to drop the notion that truth is a *thoroughgoing* improvement on reality, to confess that its value is limited, and to hark back. But there is nothing that Mr. Bradley,

¹ *Mind*, October, 1909, pp. 500-502.

religiously loyal to the direction of development once entered upon, will not do sooner than this. Forward, forward, let us range! He makes the desperate transconceptual leap, assumes *beyond* the whole ideal perspective an ultimate "supra-relational" and transconceptual reality in which somehow the wholeness and certainty and unity of feeling, which we turned our backs on forever when we committed ourselves to the leading of ideas, are supposed to be resurgent in transfigured form; and shows us as the only authentic object of philosophy, with its "way of ideas," an absolute which "can be" and "must be" and therefore "is." "It *shall* be" is the only candid way of stating its relation to belief; and Mr. Bradley's statement comes very near to that.

How could the elements of a situation be made more obvious? Or what could bring to a sharper focus the factor of personal choice involved?

The way of philosophy is not the way of life, Mr. Bradley admits, but for the philosopher, he continues, it seems to be *all there is*—which is like saying that the way of starvation is not the way of life, but to the starveling it is all there is. Be it so! Though what *obliges* one to become either such a philosopher or such a starveling does not clearly appear. The only motive I can possibly think of for choosing to be a philosopher on these painful terms is the old and obstinate intellectualist prejudice in favor of universals. They are loftier, nobler, more rational objects than the par-

ticulars of sense. In their direction, then, and away from feeling, should a mind conscious of its high vocation always turn its face. Not to enter life is a *higher vocation* than to enter it, on this view.

The motive is pathetically simple, and any one can take it in. On the thin watershed between life and philosophy, Mr. Bradley tumbles to philosophy's call. Down he slides, to the dry valley of "absolute" mere nests and abstractions, the habitation of the fictitious suprarrelational being which his will prefers. Never was there such a case of will-to-believe; for Mr. Bradley, unlike other anti-empiricists, deludes himself neither as to feeling nor as to thought: the one reveals for him the inner *nature* of reality perfectly, the other falsifies it utterly as soon as you carry it beyond the first few steps. Yet once committed to the conceptual direction, Mr. Bradley thinks we can't reverse, we can save ourselves only by hoping that the absolute will re-realize unintelligibly and "somehow," the unity, wholeness, certainty, etc., which feeling so immediately and transparently made us acquainted with at first.

Bergson and the empiricists, on the other hand, tumble to life's call, and turn into the valley where the green pastures and the clear waters always were. If in sensible particulars reality reveals the manyness-in-oneness of its constitution in so convincing a way, why then withhold, if you will, the name of "philosophy" from perceptual knowledge,

but recognize that perceptual knowledge is at any rate the *only complete kind of knowledge*, and let "philosophy" in Bradley's sense pass for the one-sided affair which he candidly confesses that it is. When the alternative lies between knowing life in its full thickness and activity, as one acquainted with its *me's* and *thee's* and *now's* and *here's*, on the one hand, and knowing a transconceptual evaporation like the absolute, on the other, it seems to me that to choose the latter knowledge merely because it has been named "philosophy" is to be superstitiously loyal to a name. But if names are to be used eulogistically, rather let us give that of philosophy to the fuller kind of knowledge, the kind in which perception and conception mix their lights.

As one who calls himself a radical empiricist, I can find no possible excuse for not inclining towards Bergson's side. He and Bradley together have confirmed my confidence in non-"transmuted" percepts, and have broken my confidence in concepts down. It seems to me that their parallel lines of work have converged to a sharp alternative which now confronts everybody, and in which the reasons for one's choice must plainly appear and be told. Be an empiricist or be a transconceptualist, whichever you please, but at least say why! I sincerely believe that nothing but inveterate anti-empiricist prejudice accounts for Mr. Bradley's choice; for at the point where he stands in the article I have quoted, I can discover no sensible reason why he should prefer the way he takes. If

he should ever take it into his head to *revoke*, and drop into the other valley, it would be a great day for English thought. As Kant is supposed to have extinguished all previous forms of rationalism, so Bergson and Bradley, between them, might lay post-Kantian rationalism permanently underground.

XXXIX

A SUGGESTION ABOUT MYSTICISM ¹

[1910]

MUCH interest in the subject of religious mysticism has been shown in philosophic circles of late years. Most of the writings I have seen have treated the subject from the outside, for I know of no one who has spoken as having the direct authority of experience in favor of his views. I also am an outsider, and very likely what I say will prove the fact loudly enough to readers who possibly may stand within the pale. Nevertheless, since between outsiders one is as good as another, I will not leave my suggestion unexpressed.

The suggestion, stated very briefly, is that states of mystical intuition may be only very sudden and great extensions of the ordinary "field of consciousness." Concerning the causes of such extensions I have no suggestion to make; but the extension itself would, if my view be correct, consist in an immense spreading of the margin of the field, so that knowledge ordinarily transmarginal would become included, and the ordinary margin would grow more central. Fechner's "wave-scheme" will diagram-

[¹ Reprinted from *Journal of Philosophy, Psychology, and Scientific Methods*, 1910, 7, 85-92. This article was written about six months before James's death. Ed.]

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matize the alteration, as I conceive it, if we suppose that the wave of present awareness, steep above the horizontal line that represents the plane of the usual "threshold," slopes away below it very gradually in all directions. A fall of the threshold, however caused, would, under these circumstances, produce the state of things which we see on an unusually flat shore at the ebb of a spring-tide. Vast tracts usually covered are then revealed to view, but nothing rises more than a few inches above the water's bed, and great parts of the scene are submerged again, whenever a wave washes over them.

Some persons have naturally a very wide, others a very narrow, field of consciousness. The narrow field may be represented by an unusually steep form of the wave. When by any accident the threshold lowers, in persons of this type—I speak here from direct personal experience—so that the field widens and the relations of its centre to matters usually subliminal come into view, the larger panorama perceived fills the mind with exhilaration and sense of mental power. It is a refreshing experience; and—such is now my hypothesis—we only have to suppose it to occur in an exceptionally extensive form, to give us a mystical paroxysm, if such a term be allowed.

A few remarks about the field of consciousness may be needed to give more definiteness to my hypothesis. The field is composed at all times of a mass of present sensation, in a cloud of memories, emotions, concepts, etc. Yet these ingredients,

which have to be named separately, are not separate, as the conscious field contains them. Its form is that of a much-at-once, in the unity of which the sensations, memories, concepts, impulses, etc., coalesce and are dissolved. The present field as a whole came continuously out of its predecessor and will melt into its successor as continuously again, one sensation-mass passing into another sensation-mass and giving the character of a gradually changing *present* to the experience, while the memories and concepts carry time-coefficients which place whatever is present in a temporal perspective more or less vast.

When, now, the threshold falls, what comes into view is not the next mass of *sensation*; for sensation requires new physical stimulations to produce it, and no alteration of a purely mental threshold can create these. Only in case the physical stimuli were already at work subliminally, preparing the next sensation, would whatever sub-sensation was already prepared reveal itself when the threshold fell. But with the memories, concepts, and conational states, the case is different. Nobody knows exactly how far we are "marginally" conscious of these at ordinary times, or how far beyond the "margin" of our present thought transmarginal consciousness of them may exist.¹ There is at any

¹ Transmarginal or subliminal, the terms are synonymous. Some psychologists deny the existence of such consciousness altogether (A. H. Pierce, for example, and Münsterberg apparently). Others, *e.g.*, Bergson, make it exist and carry the whole freight of our past. Others again (as Myers) would have it

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rate no definite bound set between what is central and what is marginal in consciousness, and the margin itself has no definite bound *a parte foris*. It is like the field of vision, which the slightest movement of the eye will extend, revealing objects that always stood there to be known. My hypothesis is that a movement of the threshold downwards will similarly bring a mass of subconscious memories, conceptions, emotional feelings, and perceptions of relation, etc., into view all at once; and that if this enlargement of the nimbus that surrounds the sensational present is vast enough, while no one of the items it contains attracts our attention singly, we shall have the conditions fulfilled for a kind of consciousness in all essential respects like that termed mystical. It will be transient, if the change of threshold is transient. It will be of reality, enlargement, and illumination, possibly rapturously so. It will be of unification, for the present coalesces in it with ranges of the remote quite out of its reach under ordinary circumstances; and the sense of *relation* will be greatly enhanced. Its form will be intuitive or perceptual, not conceptual, for the remembered or conceived objects in the enlarged field are supposed not to attract the attention singly, but only to give the sense of a tremendous *muchness* suddenly revealed. If they attracted attention separately, we should have the ordinary steep-waved extend (in the "telepathic" mode of communication) from one person's mind into another's. For the purposes of my hypothesis I have to postulate its existence; and once postulating it, I prefer not to set any definite bounds to its extent.

consciousness, and the mystical character would depart.

Such is my suggestion. Persons who *know* something of mystical experience will no doubt find in it much to criticize. If any such shall do so with definiteness, it will have amply served its purpose of helping our understanding of mystical states to become more precise.

The notion I have tried (at such expense of metaphor) to set forth was originally suggested to me by certain experiences of my own, which could only be described as very sudden and incomprehensible enlargements of the conscious field, bringing with them a curious sense of cognition of real fact. All have occurred within the past five years; three of them were similar in type; the fourth was unique.

In each of the three like cases, the experience broke in abruptly upon a perfectly commonplace situation and lasted perhaps less than two minutes. In one instance I was engaged in conversation, but I doubt whether the interlocutor noticed my abstraction. What happened each time was that I seemed all at once to be reminded of a past experience; and this reminiscence, ere I could conceive or name it distinctly, developed into something further that belonged with it, this in turn into something further still, and so on, until the process faded out, leaving me amazed at the sudden vision of increasing ranges of distant fact of which I could give no articulate account. The mode of consciousness was perceptual, not conceptual—the field expanding so fast

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that there seemed no time for conception or identification to get in its work. There was a strongly exciting sense that my knowledge of past (or present?) reality was enlarging pulse by pulse, but so rapidly that my intellectual processes could not keep up the pace. The *content* was thus entirely lost to retrospection—it sank into the limbo into which dreams vanish as we gradually awake. The feeling—I won't call it belief—that I had had a sudden *opening*, had seen through a window, as it were, distant realities that incomprehensibly belonged with my own life, was so acute that I cannot shake it off to-day.

This conviction of fact-revealed, together with the perceptual form of the experience and the inability to make articulate report, are all characters of mystical states. The point of difference is that in my case certain special directions only, in the field of reality, seemed to get suddenly uncovered, whereas in classical mystical experiences it appears rather as if the whole of reality were uncovered at once. *Uncovering* of some sort is the essence of the phenomenon, at any rate, and is what, in the language of the Fechnerian wave-metaphor, I have used the expression "fall of the threshold" to denote.

My fourth experience of uncovering had to do with dreams. I was suddenly intromitted into the cognizance of a pair of dreams that I could not remember myself to have had, yet they seemed somehow to connect with me. I despair of giving the reader any just idea of the bewildering confusion

of mind into which I was thrown by this, the most intensely peculiar experience of my whole life. I wrote a full memorandum of it a couple of days after it happened, and appended some reflections. Even though it should cast no light on the conditions of mysticism, it seems as if this record might be worthy of publication, simply as a contribution to the descriptive literature of pathological mental states. I let it follow, therefore, as originally written, with only a few words altered to make the account more clear.

“San Francisco, Feb. 14th 1906.—The night before last, in my bed at Stanford University, I woke at about 7.30 A.M., from a quiet dream of some sort, and whilst gathering my waking wits, seemed suddenly to get mixed up with reminiscences of a dream of an entirely different sort, which seemed to telescope, as it were, into the first one, a dream very elaborate, of lions, and tragic. I concluded this to have been a previous dream of the same sleep; but the apparent mingling of two dreams was something very queer, which I had never before experienced.

“On the following night (Feb. 12–13) I awoke suddenly from my first sleep, which appeared to have been very heavy, in the middle of a dream, in thinking of which I became suddenly confused by the contents of two other dreams that shuffled themselves abruptly in between the parts of the first dream, and of which I couldn't grasp the origin. Whence come *these dreams*? I asked. They were close to *me*, and fresh, as if I had just dreamed

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them; and yet they were far away *from the first dream*. The contents of the three had absolutely no connection. One had a cockney atmosphere, it had happened to some one in London. The other two were American. One involved the trying on of a coat (was this the dream I seemed to wake from?) the other was a sort of nightmare and had to do with soldiers. Each had a wholly distinct emotional atmosphere that made its individuality discontinuous with that of the others. And yet, in a moment, as these three dreams alternately telescoped into and out of each other, and I seemed to myself to have been their common dreamer, they seemed quite as distinctly *not* to have been dreamed in succession, in that one sleep. *When*, then? Not on a previous night, either. *When*, then, and *which* was the one out of which I had just awakened? *I could no longer tell*: one was as close to me as the others, and yet they entirely repelled each other, and I seemed thus to belong to three different dream-systems at once, no one of which would connect itself either with the others or with my waking life. I began to feel curiously confused and *scared*, and tried to wake myself up wider, but I seemed already wide-awake. Presently cold shivers of dread ran over me: *am I getting into other people's dreams?* Is this a 'telepathic' experience? Or an invasion of double (or treble) personality? Or is it a thrombus in a cortical artery? and the beginning of a general mental 'confusion' and disorientation which is going on to develop who knows how far?

"Decidedly I was losing hold of my 'self,' and making acquaintance with a quality of mental distress that I had never known before, its nearest analogue being the sinking, giddy anxiety that one may have when, in the woods, one discovers that one is really 'lost.' Most human troubles look towards a terminus. Most fears point in a direction, and concentrate towards a climax. Most assaults of the evil one may be met by bracing oneself against something, one's principles, one's courage, one's will, one's pride. But in this experience all was diffusion from a centre, and foothold swept away, the brace itself disintegrating all the faster as one needed its support more direly. Meanwhile vivid perception (or remembrance) of the various dreams kept coming over me in alternation. Whose? *whose?* WHOSE? Unless I can *attach* them, I am swept out to sea with no horizon and no bond, getting *lost*. The idea aroused the 'creeps' again, and with it the fear of again falling asleep and renewing the process. It had begun the previous night, but then the confusion had only gone one step, and had seemed simply curious. *This* was the second step—where might I be after a third step had been taken? My teeth chattered at the thought.

"At the same time I found myself filled with a new pity towards persons passing into dementia with *Verwirrtheit*, or into invasions of secondary personality. We regard them as simply *curious*; but what *they* want in the awful drift of their being out of its customary self, is any principle of steady-

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ness to hold on to. We ought to assure them and reassure them that we will stand by them, and recognize the true self in them to the end. We ought to let them know that we are with *them* and not (as too often we must seem to them) a part of the world that but confirms and publishes their deliquescence.

"Evidently I was in full possession of my reflective wits; and whenever I thus objectively thought of the situation in which I was, my anxieties ceased. But there was a tendency to relapse into the dreams and reminiscences, and to relapse vividly; and then the confusion recommenced, along with the emotion of dread lest it should develop farther.

"Then I looked at my watch. Half-past twelve! Midnight, therefore. And this gave me another reflective idea. Habitually, on going to bed, I fall into a very deep slumber from which I never naturally awaken until after two. I never awaken, therefore, from a midnight dream, as I did to-night, so of midnight dreams my ordinary consciousness retains no recollection. My sleep seemed terribly heavy as I woke to-night. Dream states carry dream memories—why may not the two succedaneous dreams (whichever two of the three *were* succedaneous) be memories of *twelve o'clock dreams of previous nights*, swept in, along with the just-fading dream, into the just-waking system of memory? Why, in short, may I not be tapping, in a way precluded by my ordinary habit of life, *the midnight stratum* of my past experiences?

"This idea gave great relief—I felt now as if I were in full possession of my *anima rationalis*. I turned on my light, resolving to read myself to sleep. But I didn't read, I felt drowsy instead, and, putting out the light, soon was in the arms of Morpheus.

"I woke again two or three times before day-break with no dream-experiences, and finally, with a curious, but not alarming, confusion between two dreams, similar to that which I had had the previous morning, I awoke to the new day at seven.

"Nothing peculiar happened the following night, so the thing seems destined not to develop any further."¹

¹ I print the rest of my memorandum in the shape of a note:—

"Several ideas suggest themselves that make the observation instructive.

"First, the general notion, now gaining ground in mental medicine, that certain mental maladies may be foreshadowed in dream-life, and that therefore the study of the latter may be profitable.

"Then the specific suggestion, that states of 'confusion,' loss of personality, *apraxia*, etc., so often taken to indicate cortical lesion or degeneration of dementic type, may be very superficial functional affections. In my own case the confusion was *foudroyante*—a state of consciousness unique and unparalleled in my sixty-four years of the world's experience; yet it alternated quickly with perfectly rational states, as this record shows. It seems, therefore, merely as if the threshold between the rational and the morbid state had, in my case, been temporarily lowered, and as if similar confusions might be very near the line of possibility in all of us.

"There are also the suggestions of a telepathic entrance into some one else's dreams, and of a doubling up of personality. In point of fact I don't know now 'who' had those three dreams, or which one 'I' first woke up from, so quickly did they substitute themselves back and forth for each other, discontinuously.

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The distressing confusion of mind in this experience was the exact opposite of mystical illumination, and equally unmystical was the definiteness of what was perceived. But the exaltation of the sense of relation was mystical (the perplexity all revolved about the fact that the three dreams *both did and did not belong in the most intimate way together*) ; and the sense that *reality was being uncovered* was mystical in the highest degree. To this day I feel that those extra dreams were dreamed in reality, but when, where, and by whom, I can not guess.

In the *Open Court* for December, 1909, Mr. Frederick Hall narrates a fit of ether-mysticism which agrees with my formula very well. When one of his doctors made a remark to the other, he chuckled, for he realized that these friends "believed they saw real things and causes, but they *didn't*, and I did. . . . I was where the causes *were* and to see them required no more mental ability than to recognize a color as blue. . . . The knowledge of how little [the doctors] actually did see, coupled with their evident feeling that they saw all there was, was funny to the last degree. . . . [They] knew as little of the real causes as does the child who, viewing a passing train and noting its revolving wheels, supposes that they, turning of themselves, give to coaches and locomotive their momentum. Or im-

Their discontinuity was the pivot of the situation. My sense of it was as 'vivid' and 'original' an experience as anything Hume could ask for. And yet they kept telescoping!

"Then there is the notion that by waking at certain hours we may tap distinct strata of ancient dream-memory."

agine a man seated in a boat, surrounded by dense fog, and out of the fog seeing a flat stone leap from the crest of one wave to another. *If he had always sat thus*, his explanations must be very crude as compared with those of a man whose eyes could pierce fog, and who saw upon the shore the boy skipping stones. In some such way the remarks of the two physicians seemed to me like the last two 'skips' of a stone thrown from my side. . . . All that was essential in the remark I knew before it was made. Thus to discover convincingly and for myself, that the things which are unseen are those of real importance, this was sufficiently stimulating."

It is evident that Mr. Hall's marginal field got enormously enlarged by the ether, yet so little defined as to its particulars that what he perceived was mainly the thoroughgoing causal integration of its whole content. That this perception brought with it a tremendous feeling of importance and superiority is a matter of course.

I have treated the phenomenon under discussion as if it consisted in the uncovering of tracts of *consciousness*. Is the consciousness already there waiting to be uncovered? and is it a veridical revelation of reality? These are questions on which I do not touch. In the subjects of the experience the "emotion of conviction" is always strong, and sometimes absolute. The ordinary psychologist disposes of the phenomenon under the conveniently "scientific" head of *petit mal*, if not of "bosh" or "rubbish."

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But we know so little of the noetic value of abnormal mental states of any kind that in my opinion we had better keep an open mind and collect facts sympathetically for a long time to come. We shall not *understand* these alterations of consciousness either in this generation or in the next.

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